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Growth and Slowdown in Advanced Capitalist Economies: Techniques of Quantitative Assessment

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SINCE 1973, economic growth in Western countries has slowed in terms of all relevant measuring rods. The phenomenon has been strikingly general, persistent, and large. Average GDP growth for the major European economies and Japan fell from 5.6 percent in 1950-73 to 2.1 percent thereafter, and for the U.S. from 3.7 to 2.3 percent.

Because the growth process since 1973 was interrupted by important recessions in 1974-75 and 1980-81, by acceleration of inflation, by two oil shocks, and by the collapse of the Bretton Woods payments system, significant conjunctural elements have clearly played a role in the slowdown. Present high levels of European unemployment are an indicator that output is below potential. It is also obvious, however, (see Tables 1 and 2) that the postwar golden age, which ended in 1973, was exceptional. If it were blotted from memory, performance

since 1973 would appear less worrisome.

Table 2, on labor productivity, suggests quite strongly that there has not been a simple reversion to historic norms. In Europe and Japan, productivity since 1973 has grown much faster than in the eight decades from 1870 to 1950. By contrast, U.S. productivity growth has fallen well below what was a much more stable long-term norm. The postwar process of convergence by the five follower countries has not been halted since 1973, and the productivity gap with the U.S. (see Table 3) is now smaller than ever. There is no evidence here for the notion of Eurosclerosis, which alleges that Europe's technical dynamism lags behind that of the U.S. One can also see that the Japanese growth advantage over Europe is much smaller than it was in the golden age.

This paper attempts to throw light on the causes of growth acceleration and de-

TABLE 1
PHASES OF GDP GROWTH, 1870-1984
(average annual compound growth rates)

	I 1870-1913	II 1913-50	III 1950-73	IV 1973-84	Acceleration from Phase II to Phase III	Slowdown from Phase III to Phase IV
France	1.7	1.1	5.1	2.2	+4.0	-2.9
Germany	2.8	1.3	5.9	1.7	+4.6	-4.2
Japan	2.5	2.2	9.4	3.8	+7.2	-5.6
Netherlands	2.1	2.4	4.7	1.6	+2.3	-3.1
U.K.	1.9	1.3	3.0	1.1	+1.7	-1.9
Five country average	2.2	1.7	5.6	2.1	+4.0	-3.5
U.S.	4.2	2.8	3.7	2.3	+0.9	-1.4

Source: Table A-1.

celeration since 1913 using a simple set of comparative growth accounts for the five biggest and the largest of the smaller capitalist economies. It also reviews the methodology used in 15 other similar studies. For the postwar period these are the pioneer work of Edward Denison (1967) on nine countries, Denison and William Chung (1976) on Japan and the U.S., Laurits Christensen, Dianne Cummings, and Dale Jorgenson (1980) on nine countries, John Kendrick (1981) on seven countries, and John Helliwell, Pe-

ter Sturm, and Gérard Salou (1985) on seven countries. None of these has the long perspective we seek here. Fortunately for four of our six countries, there are historical studies in this vein: Kendrick (1961, 1973) on the U.S., J-J. Carré, P. Dubois, and Edmond Malinvaud (1972) on France, Kazushi Ohkawa and Henry Rosovsky (1973) on Japan, and Robin Matthews, Charles Feinstein, and John Odling-Smee (1982) on the U.K. In addition, there are the four successive studies Denison (1962, 1974, 1979, 1985)

TABLE 2
PHASES OF GROWTH IN LABOR PRODUCTIVITY (GDP PER HOUR WORKED), 1870-1984
(average annual compound growth rates)

	I 1870-1913	II 1913-50	III 1950-73	IV 1973-84	Acceleration from Phase II to Phase III	Slowdown from Phase III to Phase IV
France	1.7	2.0	5.1	3.4	+3.1	-1.7
Germany	1.9	1.0	6.0	3.0	+5.0	-3.0
Japan	1.8	1.7	7.7	3.2	+6.0	-4.5
Netherlands	1.2	1.7	4.4	1.9	+2.7	-2.5
U.K.	1.2	1.6	3.2	2.4	+1.6	-0.8
Five country average	1.6	1.6	5.3	2.8	+3.7	-2.5
U.S.	2.0	2.4	2.5	1.0	+0.1	-1.5

Source: Table A-5.

TABLE 3
COMPARATIVE LEVELS OF PRODUCTIVITY (GDP PER HOUR WORKED), 1870-1984
(U.S. GDP per hour worked = 100)

	1870	1913	1950	1973	1984
France	54.7	49.2	41.5	74.7	97.5
Germany	58.9	55.7	33.6	72.8	90.5
Japan	19.3	18.0	13.9	43.8	55.6
Netherlands	105.2	74.6	56.5	87.5	97.2
U.K.	110.9	80.0	58.6	68.8	80.6
Five country average	70.5	56.2	40.9	69.5	84.3
U.S.	100.0	100.0	100.0	100.0	100.0

Source: Table A-5.

has made for U.S. growth back to 1929, and the Frank Collop and Dale Jorgenson (1980) study on U.S. performance since 1947.

The works reviewed here raise most of the methodological issues in growth accounting, but we do not aspire to cover the intellectual origins of this approach in full. References to the antecedent literature can be found in Maddison (1972) and in Christensen, Cummings, and Jorgenson (1980).

The present survey is confined to six advanced capitalist countries because for these countries it was possible to check hypotheses quantitatively against historical experience; however, it is desirable to extend the coverage of comparative studies to countries lower down the scale of per capita income and productivity in order to throw more light on the nature of the convergence process and on the "opportunities" or disadvantages of initial backwardness. There are, in fact, some interesting country studies of this kind: Bakul Dholakia (1975) on India, Kwang-Suk Kim and Joon-Kyung Park (1985) on Korea, and Carlos Langoni (1974) on Brazil.

Growth accounting of this type can not provide a full causal story. It deals with "proximate" rather than "ultimate" causality and registers the facts about growth components; it does not explain the ele-

ments of policy or circumstance, national or international, that underlie them, but it does identify which facts need more ultimate explanation. This kind of exercise forces one to merge and match data in a way that provides valuable cross-checks on the consistency and plausibility of the basic growth indicators both for individual countries and across countries. It is particularly useful in avoiding or identifying double counting and in tracking down the complex interactions among causal components.

The comparative approach is of great value in this field. Hypotheses, estimating techniques, and weights that "explain" performance reasonably well in a single country need to be tested in other countries where they may well "overexplain" growth experience.

This technique of diagnosis is most valuable when it is transparent. Transparency is in fact this technique's major charm, for although on significant points there are large judgmental elements, these are not so easily forgotten as they may be in econometric analysis. If all the steps are identified and the statistical appendix provides the basic series, the reader has building bricks for alternate hypotheses. There are no iron laws. The practitioner can augment, truncate, and reshuffle to taste, provided that the "explanations" of growth are logical, consis-

tent, and transparent. This is why the present paper sticks to simple, standardized, and rather conservative hypotheses throughout, so that the impact of a change in assumptions for a particular growth component can be readily traced on a cross-country basis.

Growth accounts can be organized in several ways to serve different purposes. In Denison (1967) the main objective was to explore why growth rates differed among countries. The analysis was concentrated on the period 1950–62, and the accounting covered differences in *level* of performance as well as growth rates.

In the most general form of the accounts, the main item around which the detailed explication is built is total output (which can be measured in different ways, as can be seen below), but if one wants to abstract from differences in demography, activity rates, and working hours, the same basic material can be recast as productivity accounts, where labor productivity is the central point. This approach can be used to give more emphasis to problems of technical progress.

For medium-term conjunctural analysis one can complement the “actual” accounts with an alternative set of counterfactual “potential output” accounts. The confrontation of the two can help identify the losses from macropolicy mistakes or external shocks, as in 1973–84.

Over longer periods, the accounts can be recast as measures of growth acceleration or slowdown, and in this form can help identify the distinctive features of growth momentum in the different phases of development.

This latter approach is used here, as one of our interests is in diagnosing the major changes in momentum, which have been a feature of twentieth-century capitalist development. The timing of these changes has been very similar in all the countries considered here, and the generality of the acceleration/slow-

down phenomena is very striking. This can be seen very clearly in Table 21 where only 15 of the 90 growth components were negative in the acceleration phase, and in Table 22 where only 8 of the 90 components were positive in the slowdown phase.

The second main feature of the present analysis is a concern with the nature of the convergence process, in which the follower countries have been catching up with the leader, the U.S. This process has lasted now for four decades, and its nature is important not only for these countries but for countries at much lower levels of productivity and per capita real income.

To study convergence problems fully, the accounts should show levels of performance as well as growth rates. This aspect is not developed extensively here, but levels of real output and productivity are shown corrected for differences in purchasing power of currencies, and Table 13 shows rough estimates of this kind for levels of capital stock and some other relevant magnitudes.

The present estimates cover the period 1913–84, dividing it into three major phases: 1913–50, 1950–73, and 1973–84. Each of the phases in this periodization shows distinctly different features. The use of 1973 as a turning point is hardly controversial. Most observers of the slowdown phenomenon use it, for example, Denison (1985), Federal Reserve Bank of Boston (1980), Shlomo Maital and Noah Meltz (1980), Kendrick (1981, 1984), Assar Lindbeck (1983), Henning Klodt (1984), and William Baumol and Kenneth McLennan (1985). The year 1950 was chosen as the beginning of the postwar period, because it was a year in which reconstruction was reasonably complete; however, in the case of Germany and Japan there was still substantial underuse of labor and capital for which allowance has to be made. Some readers

may therefore wish to compare 1973–84 with a shorter part of the golden age, say 1960–73. The period 1913–50 has its unity only as a time of troubles including two world wars and the Great Depression, so one could arguably try to break it down into smaller units. It is regrettable that the 1870–1913 period cannot yet be put into this framework because of gaps in the capital stock estimates and in the disaggregation of GDP by sector. Space did not permit presentation of annual estimates, but for several key magnitudes they can be found in Maddison (1982).

I. Labor Productivity

The oldest index of productivity growth is that for labor productivity, \dot{Y}^L , defined as the difference between the compound rate of increase in output, \dot{O} , and the rate of increase in labor input, \dot{L} :

$$\dot{Y}^L = \dot{O} - \dot{L}$$

This indicator has considerable attractions in an economy where labor productivity growth is stable in the long term and where a major social concern is with the level of employment. It is a better measure of long-term technical "progress" or welfare than GDP, which is affected by differences in demographic dynamism, or GDP per head of population, which takes no account of working hours per person, which have declined by almost half over the past century, or of employment rates.

There are two statistical prerequisites for this ratio—measures of output and labor input.

A. The Output Measure

Growth accountancy is indebted to pioneers like Colin Clark, Richard Stone, and Simon Kuznets who developed the conceptual framework of national ac-

counts, to scholars who have made historical estimates, to governments who have made official estimates for the postwar period, and to OECD for publishing these official estimates in comparable form. As productivity analysis involves comparisons of levels as well as growth, we are also indebted to those (mainly Milton Gilbert and Irving Kravis) who developed techniques for correcting exchange rate comparisons for purchasing power parities, and the OECD, which now publishes such estimates on an annual basis. The most easily available aggregate for comparative purposes is gross domestic product (GDP), which reflects the whole spectrum of domestic production. This is what I have used here, and this is also true of Matthews, Feinstein, and Odling-Smee (1982) and Carré, Du-bois, and Malinvaud (1976). Denison (1967) used net national product (which includes income from abroad), and he and Kendrick (1961) showed both private and total versions of this latter measure as did Denison and Chung (1976). Oh-kawa and Rosovsky (1973) analyzed agricultural and private nonagricultural products separately.

In most sectors of the economy, output is produced by both labor and capital, but the housing and government sectors are rather special. The income flow from housing is virtually all a return on capital and very little labor is involved. Conversely, with government activity, as conventionally measured, virtually all the income flow is from labor. Although governments own substantial capital assets, there is generally little operating profit on these, and even depreciation may be significantly understated. For these reasons, and also because of the limited character of market pricing here, the housing and government sectors are often excluded from growth accounts.

The choice of one national accounting aggregate rather than another should not

TABLE 4
RELATIONSHIPS BETWEEN LEVEL OF ALTERNATIVE GROWTH ACCOUNTING AGGREGATES AT NATIONAL PRICES, 1973-82

	Gross National Product at Market Prices	Gross Domestic Product at Market Prices	Gross Domestic Product at Factor Cost	Nonresidential Gross Domestic Product at Factor Cost	Private Gross Domestic Product at Factor Cost	Net Domestic Product at Factor Cost	Net National Product at Factor Cost	Private Nonresidential Net Domestic Product at Factor Cost	Private Nonresidential Net National Product at Factor Cost	Augmented Private GDP at Composite Prices (in 1970)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
France	114.7	114.2	100.0	93.1	80.1	87.2	87.6	69.3	69.7	109.0
Germany	112.4	112.2	100.0	93.8	80.8	87.4	87.6	70.7	70.9	101.5
Japan	106.0	106.1	100.0	93.3	84.3	85.5	85.4	71.8	71.7	99.3
Netherlands	110.3	110.3	100.0	94.8	79.5	88.7	88.7	69.7	69.7	95.1
U.K.	114.0	113.6	100.0	94.0	80.4	85.4	85.7	67.3	67.6	98.9
U.S.	110.7	109.1	100.0	91.3	77.0	86.6	88.2	64.7	66.3	101.2

Source: This table shows different measures of aggregate product as a percentage of GDP at factor cost averaged over the years 1973-82. Thus French GNP at market prices was 14.7 percent higher than French GDP at factor cost. First nine columns derived from OECD(d). Last column from Christensen, Cummings, and Jorgenson (1990).

be a significant matter of controversy as long as the aggregate used is the same for all the countries in the comparison, but there is a considerable difference in the level of the different aggregates, which must be kept in mind in comparing results of different authors. The first nine columns of Table 4 show different aggregates derivable on a consistent basis from the OECD national accounts, which might all be candidates for growth-accounting purposes. This paper uses estimates based on the column 3 concept. Kendrick (1981) uses a column 5 aggregate and Denison (1967) a column 7 aggregate. In fact the growth movements for all the first nine aggregates are remarkably similar. In practice the main impact of using different aggregates arises when they are used as a denominator for the factor weights.

The last column of Table 4 shows the aggregate used by Christensen, Cummings, and Jorgenson (1980), who exclude government but augment GDP to impute a service flow from consumer durables and who use price conventions that represent neither factor cost nor market prices but depend on their assessment of the incidence of taxes. Indirect taxes "unrelated to factor outlay" are excluded, but some others such as property taxes are included. While the variation between the first nine columns of Table 4 is fairly systematic across countries, this is not true of column 10 where the French aggregate is 9 percent higher than GDP at factor cost and the Netherlands aggregate is 5 percent below.

Table 4 is not an exhaustive listing. Helliwell, Sturm, and Salou (1985) adjust GDP to include the impact of net changes in energy imports because they treat energy as a factor of production. In an exploratory study, Kendrick (1976) took a particularly broad view of capital formation and total output. He augmented 1969 U.S. GNP by 34 percent

by imputing rentals on consumer durables, inventories, government capital, and intangibles such as R and D and earnings foregone by students, none of which are included in the conventional national accounts.

B. Labor Input

Construction of labor productivity involves the merger of several sources of data on employment, weekly working hours, and time off for holidays, sickness, strikes, etc., to arrive at total labor input (see Tables A-10 and A-11 and Maddison 1980a on the items required to measure hours).

II. Capital Productivity

The next major step in productivity analysis came with the development of capital stock measures using the perpetual inventory method developed by Raymond Goldsmith for cumulating successive increments of capital stock. A prerequisite for such capital stock measures is historical estimates of investment and reasonable price deflators, so estimates of this kind did not begin to appear in a form suitable for cross-country comparison until the 1960s, and even now only three of our six countries (Germany, the U.K., and U.S.) publish official comprehensive estimates of this kind. These measures represent a great step forward for growth analysts compared with the investment to incremental output ratio (ICOR) which was in use in the 1950s.

The capital (K) productivity index

$$\dot{Y}/\dot{K} = \dot{O} - \dot{K}$$

produces quite different results from that for labor. Labor productivity seldom declines even on an annual basis, and in the long run is always positive whereas capital productivity is only mildly positive and can be substantially negative in depressed business conditions, such as

TABLE 4
RELATIONSHIPS BETWEEN LEVEL OF ALTERNATIVE GROWTH ACCOUNTING AGGREGATES AT NATIONAL PRICES, 1973-82

	Gross National Product at Market Prices	(1)	Gross Domestic Product at Market Prices	(2)	Gross Domestic Product at Factor Cost	(3)	Nonresidential		Private		Net Domestic		Net National		Private Nonresidential		Augmented Private GDP at Composite Prices (in 1970)	
							Product at	Factor Cost	Product at	Factor Cost	Product at	Factor Cost	Product at	Factor Cost	Product at	Factor Cost		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)							
France	114.7	114.2	100.0	93.1	80.1	87.2	87.6	69.3	69.7	109.0								
Germany	112.4	112.2	100.0	93.8	80.8	87.4	87.6	70.7	70.9	101.5								
Japan	106.0	106.1	100.0	93.3	84.3	85.5	85.4	71.9	71.7	99.3								
Netherlands	110.3	110.3	100.0	94.5	79.5	86.7	86.7	69.7	69.7	95.1								
U.K.	114.0	113.6	100.0	94.0	80.4	85.4	85.7	67.3	67.6	98.9								
U.S.	110.7	109.1	100.0	91.3	77.0	86.6	88.2	64.7	66.3	101.2								

Source: This table shows different measures of aggregate product as a percentage of GDP at factor cost averaged over the years 1973-82. Thus French GNP at market prices was 14.7 percent higher than French GDP at factor cost. First nine columns derived from OECD/Didi. Last column from Christensen, Cummings, and Jorgenson (1980).

be a significant matter of controversy as long as the aggregate used is the same for all the countries in the comparison, but there is a considerable difference in the level of the different aggregates, which must be kept in mind in comparing results of different authors. The first nine columns of Table 4 show different aggregates derivable on a consistent basis from the OECD national accounts, which might all be candidates for growth-accounting purposes. This paper uses estimates based on the column 3 concept. Kendrick (1981) uses a column 5 aggregate and Denison (1967) a column 7 aggregate. In fact the growth movements for all the first nine aggregates are remarkably similar. In practice the main impact of using different aggregates arises when they are used as a denominator for the factor weights.

The last column of Table 4 shows the aggregate used by Christensen, Cummings, and Jorgenson (1980), who exclude government but augment GDP to impute a service flow from consumer durables and who use price conventions that represent neither factor cost nor market prices but depend on their assessment of the incidence of taxes. Indirect taxes "unrelated to factor outlay" are excluded, but some others such as property taxes are included. While the variation between the first nine columns of Table 4 is fairly systematic across countries, this is not true of column 10 where the French aggregate is 9 percent higher than GDP at factor cost and the Netherlands aggregate is 5 percent below.

Table 4 is not an exhaustive listing. Helliwell, Sturm, and Salon (1985) adjust GDP to include the impact of net changes in energy imports because they treat energy as a factor of production. In an exploratory study, Kendrick (1976) took a particularly broad view of capital formation and total output. He augmented 1969 U.S. GNP by 34 percent

by imputing rentals on consumer durables, inventories, government capital, and intangibles such as R and D and earnings foregone by students, none of which are included in the conventional national accounts.

B. Labor Input

Construction of labor productivity involves the merger of several sources of data on employment, weekly working hours, and time off for holidays, sickness, strikes, etc., to arrive at total labor input (see Tables A-10 and A-11 and Maddison 1980a on the items required to measure hours).

II. Capital Productivity

The next major step in productivity analysis came with the development of capital stock measures using the perpetual inventory method developed by Raymond Goldsmith for emulating successive increments of capital stock. A prerequisite for such capital stock measures is historical estimates of investment and reasonable price deflators. Estimates of this kind did not begin in a form suitable for cross-country comparison until the 1960s, and only three of our six countries (the U.K., and U.S.) publish comprehensive estimates of this kind. These measures represent a great step forward for growth analysts compared with the investment to incremental output ratio (ICOR) which was in use in the 1950s.

The capital (K) productivity index

$$\dot{K}^2 = \dot{Q} - \dot{K}$$

produces quite different results from that for labor. Labor productivity seldom declines even on an annual basis, and in the long run is always positive whereas capital productivity is only mildly positive and can be substantially negative in depressed business conditions, such as

TABLE 5
CAPITAL PRODUCTIVITY GROWTH, 1913-84
(annual average compound growth rates)

	1913-50	1950-73	1973-84	1913-84
France	0.12	1.50	-1.82	0.23
Germany	0.56	0.57	-1.71	0.20
Japan	0.69	1.39	-3.41	0.28
Netherlands	0.31	0.85	-1.83	0.15
U.K.	0.13	-0.26	-1.45	-0.24
U.S.	0.96	0.34	-0.47	0.55
Average	0.46	0.73	-1.78	0.20

Source: Derived from Tables A-1 and A-15.

those since 1973 (see Table 5). The close correlation between capital and output movements over the long run is the reason simple regressions find capital such a powerful explanation of growth.

Over the long term the gross capital stock (i.e., cumulated gross investment minus scrapping) and net capital stock (i.e., cumulated gross investment minus depreciation) indexes tend to move in a similar way (though the level of the net stock is of course smaller), but when capital formation is accelerating, as in 1950-73, the net stock grows faster than the gross, and, when capital growth slows down, as in 1973-84, the gross stock grows faster than the net (see Raymond Goldsmith 1962 and Michael Ward 1976 for the algebra and Tables A-15 to A-18 below for the figures).

The movement in gross capital stock gives a somewhat exaggerated representation of changes in capital's ability to contribute to production. An automobile is counted at its purchase value in the gross stock until it is scrapped. The car will indeed perform its physical function to the end but its reliability will decline and it will need increasing maintenance. By contrast, the net stock represents the discounted value of the car to its owner, but the declining second-hand value

overstates the decline in functional attributes. The car's contribution to current production is much closer to the gross than the net valuation. I have therefore used the gross stock to measure capital input, but figures on net stock movements are given in the statistical appendix (Tables A-15 to A-18).

Denison (1967) takes a simple average of gross and net stock. Kendrick (1961, 1973) and Matthews, Feinstein, and Odling-Smee (1982) show both concepts separately; Ohkawa and Rosovsky use gross stock, Carré, Dubois, and Malin-vand net stock.

In some growth-accounting exercises, for example, in three of the historical country monographs, the individual items in the capital stock are weighted at their asset values, and it is assumed that the stock thus calculated provides a proxy measure of the potential service flow derivable from the assets; however, the service flow is better approximated by using rental rather than asset weights, particularly when the structure of the gross capital stock is changing between assets with different service lives. There has in fact been a long-term increase in the share of shorter-lived assets (compare the growth of structures and equipment in Table A-17), and this means that the growth in the potential service flow has been bigger than the growth of the gross stock at asset values. The point is clear if one considers two assets such as a house and a car. A \$100,000 house has an asset value ten times as big as a \$10,000 car, but the annual rental value of the house might well be as low as 5 percent whereas for the car it might be 30 percent (as the annual car rental must cover a much bigger element of depreciation than in the case of the house). Thus the rental weights would be in the ratio of 5:3 compared with 10:1 for the asset ratio.

In Table 5, on capital productivity

growth (Π^2), asset weights were used for capital, but in measuring Π^3 , Π^4 , and Π^5 below, I used what amounts to rental weights for the two major categories, residential and nonresidential capital, and the average difference between the "capital quantity" thus measured and the growth of the two types of capital amalgamated at asset weights (Table A-15) is 0.2 percent a year for the six countries. However, we could not use rental weights systematically for different kinds of nonresidential assets because no breakdown was available for some of the countries. In this respect, the growth of "capital quantity" is understated here.

Kendrick (1961) was the first analyst to show figures at both net asset and net rental weights. He called the first magnitude the "capital stock" and the second "capital input." For the 68-year period from 1889 to 1957 his figures for the "national economy" show U.S. capital stock increasing at a compound rate of 2.54 per annum whereas his "capital input" grew somewhat faster, at 2.74 per annum (see pp. 320-22 and 328-31). Kendrick did not use rentals by asset type but by industry of use; otherwise the difference between the two concepts might well have been larger. It would certainly be larger if he had used gross weights because these include depreciation provisions that vary much more between assets than the net return.

Christensen, Cummings, and Jorgenson (1980) also draw attention to the difference between asset and rental weights, and the difference between the two is a good deal larger in their study than in Kendrick (1961). Their average capital stock growth rate for the six countries is 5.1 percent per annum (see Table 6) and their capital input grows at 6.2 percent. There are two main reasons why their differential is bigger than Kendrick's. First, they use gross weights; second, they include consumer durables

TABLE 6
MOVEMENT IN PRIVATE DOMESTIC CAPITAL
STOCK USING ALTERNATE WEIGHTS, 1950-73
(annual average compound growth rates)

	Asset Weights	Rental Weights	Difference
France	4.68	5.76	1.08
Germany	5.95	7.24	0.29
Japan ^a	7.35	9.48	2.13
Netherlands ^b	4.16	5.70	1.54
U.K. ^c	4.04	4.69	0.65
U.S.	3.15 (3.11)	4.15 (4.39)	1.00 (1.28)

Source: Christensen, Cummings, and Jorgenson (1980, pp. 654-80). These were compiled separately for seven asset classes for the private sector, that is, consumer durables, producer durables, residential structures, non-residential structures, land, farm inventories, and non-farm inventories. Each of the seven classes is broken down by four ownership sectors, with adjustment for their different tax burdens, that is, corporate business, noncorporate business, households and nonprofit institutions (see pp. 619-22); so there are 28 categories of capital in their accounts. Figures in parentheses for the U.S. are from Gollop and Jorgenson (1980, p. 87). Here there are six asset classes, as farm and nonfarm inventories are merged, and three ownership sectors as households and nonprofit institutions are merged. However, the stocks are disaggregated into 915 categories.^a 1952-73. ^b 1951

that have relatively small stocks. The differences between the two concepts are further widened by the use of a price conversion factor in the calculation of a price converted capital stock. At different levels of aggregation, however, synthetic Gollop and Jorgenson (1980) figures for the U.S. in Table 6, the even wider spread between the two concepts is perhaps due to the use in that study of an extra rapid (double declining balance) replacement pattern.

With the exception of Dutch residential capital and French residential capital from 1966 onward, all the capital stock estimates presented in this paper were derived by the perpetual inventory technique and are more comparable than those Denison had to use for some coun-

tries in 1967. There are still differences in assumptions between countries in asset lives, scrapping patterns, depreciation formulas, techniques of price deflation, and years used as benchmarks for weighting purposes (see Maddison 1982, pp. 214–32, for a more detailed analysis of the significance of these variations). Differences in growth of capital stock between countries should therefore be taken only as rough orders of magnitude, and improvement of the historical capital stock estimates is obviously a major priority for better comparative growth analysis.

III. Joint Factor Productivity

Once the capital stock is available the next step in growth accounting is an index of joint factor productivity, \dot{Y}^3 , constructed by weighting together the contribution of labor and capital:

$$\dot{Y}^3 = \dot{O} - a\dot{L} - (1 - a)\dot{K}.$$

The first comparative approach of this kind was made by Jan Tinbergen in 1942 with crude estimates for 1870–1914 for France, Germany, the U.K., and the U.S. He gave capital a weight of 0.25 and labor 0.75 using Paul Douglas' earlier results from production functions where the two weights were constrained to add to 1 (see Douglas 1948).

The first comprehensive modern study in this field was Kendrick (1961). Kendrick and the authors of all the subsequent historical country monographs have used factor shares in GDP (or in whatever aggregate they used to measure output) as labor and capital weights for their joint factor productivity measures, on the grounds that in neoclassical distribution theory these represent rewards proportional to the contribution of labor and capital to production.

One has only to look at the empirical basis from which the weights are derived

to see that the neoclassical assumptions are very crude. Table 7 gives a breakdown of average income shares of GDP at factor cost for the six countries taken from the OECD(d) for 1973–82.

The first item is rents for dwellings, including depreciation. In all the countries, there are various kinds of rent control and subsidies either to tenants or proprietors that change over time and make the market imperfect. Even without these, this is a sector with fairly long-term private contracts that react with long lags to changes in inflation, mortgage rates, and so on. Finally, one should note that a large part (often more than half) of these incomes has to be imputed, because the houses are occupied by their owners.

The second item of capital income is depreciation that is derived by national income statisticians using guidelines drawn partly from direct estimates of asset lives and partly from the legal provisions for tax relief. These estimates are therefore very crude.

The third item of capital income is the operating surplus on nonresidential capital. This has to be calculated after elimination of the labor component of incomes of self-employed persons, whose incomes are mixed and are included with the operating surplus in the national accounts. The estimates of the labor income of the self-employed in Table 7 were based on the common assumption that their per capita labor compensation was the same as the average for wage and salary earners.

Government-owned assets form a substantial part of the capital stock figures we have used. In 1984, the government share of nonresidential fixed assets (general government and government enterprises combined) was 30 percent in Germany, 38 percent in Japan, 22 percent in the Netherlands, 42 percent in the U.K., and 30 percent in the U.S. How-

TABLE 7
DERIVATION OF CAPITAL AND LABOR SHARES IN GDP AT FACTOR COST (AVERAGE FOR 1973-82)
(percentage of GDP)

	Rent and Imputed Rent on Dwellings (Including Depreciation)	Depreciation on Nonresidential Capital	Operating Surplus on Nonresidential Capital	Total Capital Share
France	6.9	10.8	12.8	30.5
Germany	6.2	10.1	13.7	30.0
Japan	6.7	12.5	10.0	29.2
Netherlands	5.2	9.9	14.5	29.6
U.K.	6.0	13.1	6.4	25.5
U.S.	8.7	12.3	5.7	26.7
Average	6.6	11.4	10.5	28.6
	Imputed Labor Income of Self- Employed	Wages and Salaries	Employer Contributions for Social Security Private Pensions and Welfare	Total Labor Share
France	7.7	45.7	16.1	69.5
Germany	6.7	52.1	11.2	70.0
Japan	14.1	50.5	5.9	70.5
Netherlands	7.0	48.9	14.5	70.4
U.K.	6.3	59.5	8.7	74.5
U.S.	6.2	56.9	10.2	73.3
Average	8.0	52.3	11.1	71.4

Source: OECD(d) and national sources for GDP components. Proportion of employment are from OECD(e).

ever, no income is imputed in the national accounts (column 3 of Table 7) for general government assets such as roads, schools, or public buildings. Income from government enterprises, which is included, is often depressed by a tendency to underprice their output.

The fourth column of Table 7 is the sum of the first three columns, and represents the total capital share.

The labor share has three components: the imputed labor incomes of the self-employed; wages and salaries; and employer contributions to social security, private pensions, and welfare. The latter are only

very partially documented, but are not gaining, and it should be remembered that wages and salaries are also affected by government regulation and by requirements that they include payment for holidays.

Table 7 shows a total capital weight for 1973-82 which averages 28.6 with a dispersion around the average that is not too big. The capital share was somewhat depressed in this period. We were not able to make a comparable estimate for 1950-73 as a whole, but the figure for 1960-73 was about 32 percent.

Table 8 shows the weights used in

TABLE 8
ALTERNATIVE CAPITAL WEIGHTS FOR ESTIMATES OF POSTWAR TOTAL FACTOR PRODUCTIVITY
(percentages of the pertinent aggregate)

	Denison, Share of Net Capital Income in Net National Product at Factor Cost (1950-62)	Share of Gross Capital Income in GDP at Factor Cost (1973-82)	Kendrick, Share of Gross Capital Income in Private GNP at Factor Cost (1960-79)	Helliwell, Sturm, and Salou: Share of Gross Capital Income and Energy Inputs in GDP plus Energy Imports (1962-82)	Christensen, Cummings, and Jorgenson, Share of Augmented Capital Income in Augmented Private Domestic Product at Composite Prices (1950-73)
France	23.0	30.5	38.2	41.0	40.3
Germany	26.3	30.0	34.9	41.0	38.6
Japan	23.7 ^a	29.2	33.4	38.0 ^b	39.2 ^c
Netherlands	26.0	29.6	—	—	44.6 ^d
U.K.	22.2	25.5	34.8	38.0	38.5 ^e
U.S.	21.4	26.7	37.1	36.0	40.5
Average	23.7	28.6	35.7	38.9	40.3

Source: First column from Denison (1967, p. 38), and, for Japan, from Denison and Chung (1976, p. 30), second column from Table 7 above; third column from Kendrick (1981, p. 127) he used figures from an unpublished OECD report that refer to 1970 and applied this 1970 weight for both his periods 1960-73 and 1973-79 (pp. 140-41); fourth column from Helliwell, Sturm, and Salou (1985, p. 163), fifth column from Christensen, Cummings, and Jorgenson (1980, p. 620).

^a 1952-62; ^b 1967-82; ^c 1952-73; ^d 1951-73; ^e 1955-73.

some other comparative studies. Denison's weights are the lowest because he measures output net of depreciation; Christensen, Cummings, and Jorgenson (1980) have the highest weight because they augment capital to include consumer durables. Helliwell, Sturm, and Salou (1985) also have augmented weights, and Kendrick (1981) has high weights because he excludes government (which has little capital income relative to its share of product).

For earlier years, the four country monographs (see Table 9) show an average weight for capital over the whole period they cover of 34 percent, with a distinct tendency for the weight of capital to fall over time.

The change in weights over time partially reflects underlying real forces such as the change in factor prices, which provides a legitimate reason for using differ-

ent weights for different periods; however, given the crudeness of the statistics, the possible distortion involved because of the large decline in the relative importance of income from self-employment, the increasing legislative squeeze on property shares, and the rising share of government-owned assets, on which rental income is very small, it seemed wise to use the same capital weight for all our periods and countries.

Because GDP is our measure of output, and capital stock is on a gross basis, gross weights are the most appropriate for our purpose. We have therefore given capital a weight of 30 percent in total, with 7 percent for residential capital and 23 percent for other forms. This is a little higher than the figures for 1973-82 in Table 7, but the capital share was depressed somewhat in that period.

We did not include land and invento-

TABLE 9
WEIGHTS USED FOR CAPITAL IN TOTAL FACTOR PRODUCTIVITY MEASURES IN THE HISTORICAL MONOGRAPHS

France	Gross weights, 28 percent throughout (Carré, Dubois, and Malinvaud 1972, p. 246)
Japan	Gross weights, 40 percent for 1913-38, 31 percent for 1954-64 for private nonagricultural output (Ohkawa and Rosovsky 1973, pp. 316-17)
U.K.	Gross weights, 41 percent for 1856-73, 43 percent for 1873-1913, 33 percent for 1913-51, 27 percent for 1951-73 (Matthews, Feinstein, and Odling-Smee 1982, p. 208)
U.S.	Net weights, 35 percent for 1899-1919, 25 percent for 1919-53 for the national economy (Kendrick 1961, p. 85). The revised figure for 1929-53 in (Kendrick 1973, p. 173) averaged 29 percent.

ries in the capital estimates for lack of data.

IV. Augmentation of Factor Inputs

Although the total factor productivity approach was a big leap forward in growth analysis, it was clear that a good deal remained unexplained. Kendrick (1961) accounted for less than half of U.S. growth in the period 1869-1957, and subsequent investigators have therefore tried to reduce the size of the productivity component by "augmenting" estimates of factor input. Where K^* is "augmented" capital, and L^* is "augmented" labor, the formula became:

$$\dot{Y}^d = \dot{Q} - a\dot{L}^* - (1 - a)\dot{K}^*.$$

A. Augmenting Labor Input

Kendrick had already distinguished between the growth of working hours and the growth of "labor input," because he weighted working hours in different industries by their relative average earnings. This "augmented" labor input very little, but under the influence of Theodore Schultz (1961), Denison in his first study for the U.S. (1962) quickly incorporated a sizable adjustment for improvement in educational quality. He also made adjustments for changes in the age-sex composition of employment. Both of these practices have now become general in multifactor growth analysis, though

the old partial measure of labor productivity is almost never expressed with the new augmented denominator.

Virtually all subsequent analysts have taken over the age-sex and education adjustments in one form or other. Here we made no age adjustment because age figures and age-earnings differentials were not reliable for the 1913-50 period. A 0.6 weight was applied to female employment. For education it is generally accepted that some of the wage differential by level of education represents rewards for intelligence, family connections, or the impact of credit on the private and public sector. Some computer weights is was education level. 12. In moving of educational compressed difference broadly similar to Denison (1962) see Maddison (1976) for a discussion of the complex role of education, and see George Psacharopoulos (1984) for a discussion of various techniques of measurement.

A more controversial innovation by Denison (1962) was his assumption that there is a compensatory increase in work intensity that partially offsets declines in working hours. Denison assumed that above 2,529 hours a year, reductions in work time are fully compensated for by increased work intensity, and that below

1,762 hours there is no compensating offset. In between, there was a varying and partial offset. In later studies, Denison refined this assumption for different categories of worker.

This large quality effect seems questionable over the long term. In the short term, a cut in working hours with no corresponding wage reduction may stimulate worker effort and managerial efficiency. But these effects wear off as the memory of the old situation fades. Compared with their grandparents, people now have long holidays, two-day weekends, shorter weekly hours, easy facilities for sickness absence, greater security of employment, more human relations with foremen and supervisors. Their work is less fatiguing, but a lot of the extra reserve of energy goes into leisure pursuits like jogging, skiing, and wind surfing rather than in work effort. I have therefore simply assumed that cuts in working hours lead to an equiproportionate cut in labor input.

Matthews, Feinstein, and Odling-Smee (1982, p. 104) have followed Denison's lead in assuming a work intensity effect; Ohkawa and Rosovsky (1973) ignore it, and Carré, Dubois, and Malinvaud (1972, p. 95) acknowledge that it may play a role, but do not measure it. It is ignored by Kendrick (1981), by Christensen, Cummings, and Jorgensen (1980), and by Helliwell, Sturm, and Salou (1985).

B. Augmenting Capital Input

In 1962 Robert Solow suggested incorporation of a hypothetical quality improvement in successive vintages of capital on the grounds that physical investment is the prime vehicle by which technical progress is realized. He overstated the case in assuming, by way of illustration, "that new technology could be introduced into the production process *only* through gross investment in new plant and equipment" (Solow 1962,

p. 76). Later (1963, p. 80), he suggested that plausible rates of quality augmentation for Germany and the U.S. were on the order of 4 or 5 percent a year, which he derived by assuming all progress to be embodied, using a production function where there was no quality improvement for labor, and no "disembodied" technological progress.

Denison rightly rejected the catchall version of the embodiment approach and argued that the high-quality improvement factor was incompatible with what we know about the lives of assets, which would be scrapped earlier than they are if Solow's extreme assumptions were correct.

It is quite clear that some of the impact of technical progress is disembodied and arises from improvement in the content of knowledge acquired by employees and managers in school and on the job, and by retrofitting and recombining old capital assets; however, insertion of a modest element of embodied technical progress in the analysis does illuminate the nature of the growth process and clarifies the impact of changes in the age of capital in a way that is not possible outside the vintage context.

In rejecting Solow's suggestions, Denison (1967, pp. 144-50) argued as if the only legitimate element of the embodiment effect arose in cases where the average age distribution of the capital stock changes (and even this in a very narrow sense, i.e., abstracting from the impact of changes in the distribution of capital between structures and equipment). He assumed that embodied technical progress makes its impact only by changes in age structure and rate of quality improvement, which alter the ratio between average and best practice at different dates, though the embodiment thesis is also (and mainly) concerned with improvements in average practice over time (see Maddison 1972 for a more detailed discussion of the issue).

TABLE 10
AVERAGE AGE OF THE GROSS NONRESIDENTIAL FIXED CAPITAL STOCK, 1950-84

	1950	1973	1984
France	15.14	9.98	12.01
Germany	16.21	9.72	13.10
Japan	12.48	8.13	10.45
Netherlands	14.71	10.25	13.37
U.K.	13.18	10.93	12.98
U.S.	13.37	11.70	12.50

Source. These estimates assume that all assets have the same 30-year life in all the countries and that the retirement pattern is rectangular, that is, all assets are scrapped on their thirtieth birthday. Annual increments to the stock were calculated by applying the ratio of domestic nonresidential fixed investment to GDP to the index of real GDP (1950 = 100) at constant prices. These increments (all measured as fractions of 1950 GDP) were cumulated over 30 years with adjustment for war damage. Thus the 1950 stock is the sum of the increments from mid-1920 to mid-1950, the 1973 stock the sum of mid-1943 to mid-1973 increments, and the 1984 stock, the sum of the increments from mid-1954 to mid-1984. Because one knows the size and age of all the increments, the average age can be easily calculated. See Maddison (1972, Appendix A) for an illustration of the method used. War damage was derived from Maddison (1976, p. 472) for France (8 percent of the pre-1946 asset formation), Germany (13 percent), and the U.K. (3 percent), from Maddison and Bote Wilpstra (1982, p. 82) for the Netherlands (15 percent), and from Bank of Japan (1966, p. 27) for Japan (25.7 percent). The GDP estimates were from sources cited in Table A-1. Investment coefficients for postwar years are generally from OECD(d), and for earlier years in France from Carré, Dubois, and Malinvaud (1972, p. 652) reduced by 25 percent to eliminate housing and the repairs component of nonresidential construction (1920-21 and 1939-46 investment rates were my estimates), Germany from Wolfgang Kirner (1968, pp. 77, 80-81, 92, 104-07); Japan from Ohkawa and Miyoshi Shinohara (1979); Netherlands from Maddison and Wilpstra (1982, pp. 82-84), U.K. from Feinstein (1972), U.S. from Kendrick (1961), Simon Kuznets (1961), Raymond Goldsmith (1955, Vol. I), and for 1929 onward from U.S. Dept. of Commerce publications.

average age of the capital stock did not change.

In all the countries, the average age of the capital stock declined from 1950 to 1973, as the rate of growth of capital stock accelerated a good deal over the previous period. From 1973 to 1984, by contrast, as capital stock growth slowed down, the age of capital rose in all the countries.

Because the weight for capital is 0.3, the contribution of a 1.5 percent capital quality improvement to growth in the standard case (1913-50, where no age adjustment was made) is 0.45 points per annum (see Table 20). The difference between this and the average capital quality contribution (0.55) in 1950-73 for the six countries represents the age effect, that is, an average of about 0.10 for the six countries. These are much smaller than

the age effects in Ohkawa and Rosovsky (1973); Carré, Dubois, and Malinvaud (1972); and Kendrick (1981), but they are similar to the age effect Denison (1967, pp. 304-12) had for Denmark, Germany, and Norway in 1950-55. The main difference between my estimate and the estimates of these authors is that I include the rest of the embodiment effect as well.

It should be noted that the intercountry variation in the capital quality effect cannot be derived directly from Table 10, which shows the average age of the stock, without a vintage effect.

V. Assessing the Impact of Supplementary Influences Additional to Augmented Joint Factor Productivity

Some growth analysts stop short after they have measured total factor pro-

TABLE 11a

JOINT FACTOR PRODUCTIVITY, 1913-84
(annual average compound growth rate)

	1913-50	1950-73	1973-84
France	1.42	4.02	1.84
Germany	0.86	4.32	1.55
Japan	1.10	5.79	1.21
Netherlands	1.25	3.35	0.81
U.K.	1.15	2.14	1.22
U.S.	1.99	1.85	0.52
Average	1.30	3.58	1.19

Source. Derived from Table 20. Joint factor productivity equals GDP growth minus the contributions of labor quantity, residential capital quantity, and nonresidential capital quantity.

TABLE 11b

AUGMENTED JOINT FACTOR PRODUCTIVITY, 1913-84
(annual average compound growth rate)

	1913-50	1950-73	1973-84
France	0.61	3.11	0.93
Germany	0.19	3.61	1.13
Japan	0.04	4.69	0.43
Netherlands	0.53	2.38	0.14
U.K.	0.38	1.53	0.64
U.S.	1.19	1.05	-0.27
Average	0.49	2.73	0.50

Source. Derived from Table 20. Augmented joint factor productivity is equal to joint factor productivity minus the contributions of labor quality and capital quality.

activity (see Table 11a or its augmented variant Table 11b). Kendrick (1961) did so because Denison had not then inaugurated the fashion, and Jorgenson, in most of the many studies he has made with various collaborators, has done so out of his strong commitment to neoclassic assumptions. Since Denison's (1962) dazzling tour de force, several other authors, including Kendrick (1981), have followed his example by adding significant supplementary elements. The justification for doing this is clear because the total factor productivity measure, even in its augmented version, still leaves an important amount of growth unexplained, and particularly the growth acceleration of the modern age. This paper therefore incorporates a number of such supplementary influences.

The index for this full-blooded growth accounting approach is:

$$\dot{Y}^5 = \dot{Q} - a\dot{L}^* - (1 - a)\dot{K}^* - \dot{S}$$

where \dot{S} is the contribution to the rate of growth of a number of supplementary influences. In our case there are nine of these supplementary items. \dot{Y}^5 is perhaps best referred to as the "residual," which is the residue of unmeasured influ-

ences, including disembodied technical progress, statistical and other error. In comparing different specimens of growth accounting, one must remember that the "residual" may be conceptually different for different authors, as is also the case with augmented total factor productivity, and that its comparative significance depends on what is included.

In our approach to use the standard convention across periods, but to include nine supplementary elements, some of them are long-run in character, but some are short-run or ad hoc and do not apply to all the periods.

The nine supplementary elements (in order of discussion) derive from:

1. changes in economic structure;
2. the process of convergence (catch-up) of follower countries on the leader (the U.S.);
3. foreign trade effects;
4. economies of scale at the national level;
5. the energy price explosion of 1973-84 and induced energy economy;

6. effects of natural resource discovery;
7. costs of government regulation and crime;
8. labor hoarding/dishoarding;
9. use of capacity effects.

The first four are more or less systematic, the next three are ad hoc, and the last two are of a cyclical/conjunctural nature.

For convenience in comparison, these sources of growth, like the factor inputs, are summarized in Tables 19-22 in additive form as contributions to the overall compound growth rate of GDP, rather than shown as indices that would have to be multiplied together to "explain" growth.

A. *Structural Change*

Economic growth has been accompanied by massive changes in economic structure whose long-run pattern has been similar in all six countries. As can be seen in Table A-13 there has been a steady decline in the share of agriculture in employment, from an average of 34 percent in 1913 to 5.5 percent in 1984, and an equally steady rise in the share of services from 33 to 62 percent. Industrial development has been different. It accounted for 32 percent of employment in 1913, rose to a peak of 39 percent in 1960, and fell back again to 32 percent in 1984. This same bell-shaped pattern of relative industrialization and deindustrialization has affected all of the countries, though its timing has varied, coming earliest in the Netherlands, U.K., and U.S. and latest in Japan. It is clearly a long-run general tendency, though in the 1973-84 period of depressed demand it was exacerbated by the conjunctural situation.

Structural changes reflect two basic forces that have operated on all the countries as they have reached successively

higher levels of real income and productivity. The first of these is the elasticity of demand for particular products, which has been rather similar at given levels of income (particularly as relative price structures have moved in a similar direction). These demand forces have reduced the share of agricultural products in consumption and have raised the demand for the products of industry and services. The second basic force has been the differential pace of technological advance between sectors. Productivity growth has been slower in services than commodity production: partly because of the intrinsic character of many personal services; partly because of measurement conventions that exclude the possibility of productivity growth in some services. Structural change has also been affected by other influences such as the size of government activity, foreign trade, etc. (see Maddison 1980b).

If productivity were at the same level and grew at the same pace in each sector, there would be no structural effect, but in fact there are big differences. Historically, agriculture has had low productivity levels, and the exodus from low-productivity employment to higher-productivity employment in industry and services was the important element in structural "progress." After the Second World War, high levels of overall demand speeded up this process, sucking labor out of agriculture at a faster pace. Helped by technical advances, agricultural productivity growth speeded up in the postwar period and has in most cases been faster than that in industry (see Table A-6). Because the relative level of agricultural productivity is a good deal higher now than it was, and employment in agriculture is much smaller, the scope for this kind of sectoral gain has generally eroded. It has not disappeared and still provides scope for significant future gain

TABLE 12
IMPACT OF STRUCTURAL SHIFT IN EMPLOYMENT ON GROWTH OF GDP PER PERSON EMPLOYED, 1950-84
(annual average compound growth rates)

	Actual Rate of Growth of GDP per Person Employed		Rate of Growth of GDP per Person Employed Assuming Employment Structure Unchanged and with Actual In-sector Productivity Growth		Impact of Proportionate Sectoral Shift in Employment on Growth of GDP per Person Employed	
	1950-73	1973-84	1950-73	1973-84	1950-73	1973-84
France	4.65	2.16	4.19	2.28	0.46	-0.12
Germany	4.88	2.29	4.52	2.24	0.36	0.05
Japan	7.67	2.94	6.45	2.73	1.22	0.21
Netherlands	3.62	0.96	3.69	1.26	-0.07	-0.30
U.K.	2.54	1.43	2.44	1.69	0.10	0.26
U.S.	2.12	0.55	2.00	0.62	0.12	-0.07
Average	4.25	1.72	3.88	1.80	0.37	-0.08

Source: First two columns from Table 19. Otherwise, sectoral GDP from OECD data supplemented by national sources; sectoral employment derived from Tables A-7 and A-13. For sectoral productivity growth see Table A-6. Figures on hours worked per person by sector were not available on a reliable basis. For the 1913-50 estimates in Table 19, the sources for GDP by sector were Carré, Dubois, and Mahyand (1972) for France, Walter Hoffmann (1965) for Germany, Ohkawa and Shinohara (1979) for Japan, Feinstein (1972) for the U.K., and Kendrick (1977) for the U.S.

in Japan, but it is not what it used to be.

In the past there was always some structural "drag" from movement into the slow-growing service sector, but this was compensated for by its being a relatively high productivity sector. Now, however, this "drag" is much bigger than it was. The service sector is bigger than in the past, the level of service productivity is lower than that in industry, and deindustrialization of employment in favor of services is increasingly prevalent.

The contribution of structural change to growth was generally most favorable in 1950-73 and least favorable in 1973-84 (when it was actually negative for four of the countries). Over the whole period since 1913 it was most favorable for Japan, which started with the biggest agricultural sector, and least favorable for the

Netherlands, the most "mat-

Table 12 shows the impact of structural change on growth of output per man would have been if the structure of employment had not changed and if productivity growth in each sector remained as actually experienced.

Virtually all growth analysts attach importance to structural change, particularly in the form of labor migration from low to high productivity sectors. It is treated as a similar add-on supplement to total factor productivity analysis in the cross-country studies of Denison (1967), Denison and Chung (1976), and Kendrick (1981), as well as in the national

TABLE 13
CHARACTERISTICS OF PERFORMANCE LEVELS IN THE LEAD COUNTRY (U.S.) AND THE FIVE FOLLOWER COUNTRIES IN 1984
(U.S. = 100)

	GDP per Employee	Annual Hours per Employee	GDP per Employee Hour	Sex Mix of Employment	Education per Employee	R and D per Employee	Nonresidential Capital Stock per Employee	Modernity of Nonresidential Capital Stock	Energy Consumption per Employee	Land per Employee	Scale of National Economy	Foreign Trade per Employee
France	93	95	98	101	84	72	101	104	54	29	19	180
Germany	93	103	91	102	73	89	111	95	64	11	22	249
Japan	73	132	56	102	84	68	90	119	39	7	39	102
Netherlands	98	100	97	105	73	72	110	93	72	9	5	497
U.K.	75	93	81	100	81	67	65	96	48	12	17	160
Average for five followers	86	105	84	102	79	74	95	101	55	14	20	238
U.S.	100	100	100	100	100	100	100	100	100	100	100	100

Source: In this table a figure less than 100 represents less favorable performance levels than in the U.S., a figure above 100 represents a situation more favorable than in the U.S. Most of the figures on levels are derived from the appendix tables with weights similar to those used in Table 20, that is, female employees are weighted 0.6, male employees 1; a year of primary education is given a weight of 1, secondary education 1.4, and higher education 2. The level of the nonresidential capital stock was derived in the same way for all countries as described in Table 10, which produced capital output ratios at constant national prices in 1984 of 3.12 in France, 3.48 in Germany, 3.75 in Japan, 3.60 in the Netherlands, 3.28 in the U.K., and 2.74 in the U.S. These figures were converted into 1984 dollars at U.S. purchasing power parity (PPP) using the GDP figures in Table A-1, and the relative PPPs for investment goods in 1980 in Ward (1985, p. 87). Modernity of capital stock is derived from Table 10, land area from World Bank (1986), scale of economy from Table A-1.

monographs on France, Japan, and the U.K. Kendrick (1961) and Gollop and Jorgenson (1980) in their studies on U.S. growth treat it differently, within their factor productivity analysis, by disaggregating the economy into many more sectors than we have done.

B. *The Catch-Up Bonus*

Between 1913 and 1984, the U.S. had a higher level of real per capita income and labor productivity than all of the other countries, a "leadership" that had emerged around 1890 when U.S. productivity overtook that in the U.K. The initial dynamism of the U.S. came from its comparatively greater advantage in natural resources, its higher investment rates, higher levels of education and research. With time, the larger scale of the U.S. economy became increasingly pronounced, and this also may have contributed something to the U.S. lead. During 1913–50 the leader-follower gap was widened because European and Japanese growth was adversely affected by war.

In the long run, as U.S. natural resource advantages become less significant, as the mechanisms for technical diffusion are improved, as levels of human and physical capital per head in the other countries come closer to U.S. levels, and the scale of markets is widened by international trade, there are strong reasons for expecting a convergence of productivity levels, and indeed, in the period since 1950 this process has been very clear (see Tables 3 and 13).

If the follower countries follow an appropriate policy mix and are not disturbed in the convergence process by war, they should be able to increase productivity at a faster pace than the lead country. They enjoy "opportunities of backwardness," which means that over a considerable range of technology they can emulate the leader and get a given amount of growth with less expenditure

on research and development. They can push the rate of capital formation per worker faster without running into diminishing returns, and structural change is rapid. Most of these effects enter into the accounts elsewhere, but when countries mount a successful process of catch-up, they are in a "virtuous circle" situation, which we have assumed will provide an extra efficiency bonus augmenting the yield of factor inputs and other growth components in a way that is not true of the lead country, which is nearer to a "best-practice" situation over a wide range of productive activity.

I assume this catch-up bonus to be a function of both (a) the size of the gap between a particular follower country and the lead country and (b) the rate at which the productivity gap is being narrowed. The size of the gap at different periods can be seen in Table 3; the rate of convergence can be seen in Table 19. It was assumed that the rate of bonus when the gap is being narrowed, as it was in 1950–84, was 20 percent of the convergence rate. There are strong reasons to think that, if the process, then the particular countries have chosen, is an important element in our speculative.

The catch-up effect in the follower countries was biggest in Japan, which had the lowest starting position in 1950 (14 percent of U.S. levels) and the fastest growing economy. It was least in the Netherlands and the U.K., whose position was nearest to the U.S. in 1950. In the U.S., of course, it was zero. When the follower countries have converged on the U.S., this effect will ultimately wither away. High rates of investment will be less profitable and more R and D will be necessary (see Table A-24). Generally speaking, the catch-up effect

was weaker in 1973–84 than in the golden age (1950–73) except in the U.K.

It can be seen from Table 13 that the process of convergence has already advanced rather far in this group of countries. The average lag of the followers is now very small for levels of fixed capital, but more marked for education and R and D. The U.S. advantage in natural resource endowment (for which the land and energy ratios are a rough proxy) and in the scale of its internal market is still very large indeed, but these two influences are not very significant now because (a) these particular follower countries have offset the smaller size of their national markets to a large extent by opening their economies to international trade and (b) there have been giant strides in transport technology, which makes the locus of natural resources less important than was once the case.

A catch-up bonus does not figure in many versions of growth accounts, but it plays a major role in Helliwell, Sturm, and Salou (1985) whose hypothesis is different, that is, convergence on growth rates in the lead country rather than on its level. There is an analogous element of this kind in Denison (1967), which he classifies as an economy of scale due to differing "income elasticities." Although Denison's terminology and method of calculation are different, the size of his coefficients and their inverse distribution by initial level of productivity are similar to those presented here.

C. Foreign Trade Effect

Since 1913, the foreign trade regimes of these countries have undergone major changes that have had some effect on output growth. In the 1913–50 period, trade was adversely affected by the growth of tariffs, quantitative restrictions, and exchange controls. In 1950–73, tariffs were removed on a great part of the intertrade of the four European countries within the

TABLE 14
RELATION BETWEEN GROWTH OF GDP AND FOREIGN
TRADE VOLUME AVERAGE FOR SIX COUNTRIES
(annual average compound growth rates)

	1913–50	1950–73	1973–84
Average Growth of Trade Volume	0.49	9.42	3.61
Average GDP Growth	1.85	5.31	2.10

Source: Table 19.

European community, and on a world-wide basis for all six countries by successive GATT rounds. Quantitative restrictions on nonagricultural products were greatly reduced, and exchange controls were reduced to negligible proportions.

As a result, foreign trade volume grew more slowly than GDP in all the countries in 1913–50 and faster in all the countries in 1950–73.

After 1973, the tariff reduction process was much less significant, and in some items, quantitative restrictions on trade have grown. Trade volume in 1973–84 was still faster than GDP but to a less marked degree than in 1950–73 (see Table 14).

In 1950–73 the growth of trade strengthened international specialization and competition through the removal of trade barriers and gave the European countries some of the traditional American advantages of large internal markets. The prices of products entering foreign trade, both imports and exports, rose a good deal less than the overall price deflators, in a way that was not true after 1973.

We have assumed that foreign trade produced ten percent economies of scale in the first and last periods, and 20 percent in 1950–73 (see source note for Table 20). For 1950–73, we assumed that the efficiency impact of a given percent-

TABLE 15a
DIFFERENCE BETWEEN GROWTH RATES OF ENERGY CONSUMPTION AND GDP
(annual average compound growth rates)

	1913-50	1950-73	1973-84	Difference 1950-73 Minus 1913-50	Difference 1973-84 Minus 1950-73
France	-0.66	-0.52	-2.06	0.14	-1.54
Germany	-1.30	-1.22	-2.15	0.08	-0.93
Japan	-0.26	-0.16	-3.29	0.10	-3.13
Netherlands	-0.79	1.91	-2.30	2.70	-4.21
U.K.	-1.28	-1.32	-3.17	-0.04	-1.85
U.S.	-0.91	-0.72	-2.24	0.19	-1.52
Average	-0.87	-0.34	-2.54	0.53	-2.20

Source: Table 19.

age expansion of trade was greater because of the intense policy effort to reduce barriers, which produced an unprecedented fall in the relative price of items that entered international trade.

D. Economies of Scale at the National Level

In neoclassic versions of growth accounts (e.g., in Jorgenson's work), it is assumed that there are constant returns to scale, but in all of Denison's studies, a significant scale bonus is assumed to occur as national markets increase in size. In Denison (1967), scale economies at the national level represent about 9 percent of growth, and their importance is similar in Kendrick (1981). Ohkawa and Rusovsky (1973) also attribute importance to economies of scale.

In fact, empirical evidence on economies of scale is scarce. Economies of scale are difficult to calculate in cross-section studies because of interfirm variations in vintages of capital, and, in time series, it is difficult to disentangle scale economies from the effects of technical progress. In a careful study, Zvi Griliches and V. Ringstad (1971) found economies of scale in Norwegian manufacturing to be

between 6 and 7 percent, but because Norway is a very small economy, and scale economies are not as likely in the rest of the economy as in manufacturing, I assume that the scale bonus at the national level for these six countries is only 3 percent of GDP growth.

E. The Energy

Over the long run, economies have been in the process of energy economizing, as seen from Table 15a. In the two periods, all six countries had a slower growth in energy consumption than GDP (except for the Netherlands in 1950-73).

In 1950-73, there was somewhat less energy economizing than in the previous period, but given the relative cheapness of energy, this change was not big enough to affect aggregate economic growth, except in the Netherlands.

In 1973-84, however, as a result of the OPEC shocks, energy prices rose tenfold in two successive leaps, and this led to a sharp increase in the pace of energy economizing in the rest of the economy. In all countries this process reduced growth rates.

There is considerable controversy about the impact of energy substitution

TABLE 15b
ACTUAL AND HYPOTHETICAL GROWTH OF GDP PLUS ENERGY CONSUMPTION
(annual average compound growth rates)

	Actual		Hypothetical		Actual minus Hypothetical	
	1950-73	1973-84	1950-73	1973-84	1950-73	1973-84
France	5.12	2.07	5.12	2.16	0.00	-0.09
Germany	5.89	1.55	5.89	1.60	0.00	-0.05
Japan	9.37	3.63	9.37	3.77	0.00	-0.14
Netherlands	4.74	1.42	4.69	1.73	0.05	-0.31
U.K.	2.98	0.87	2.98	0.98	0.00	-0.12
U.S.	3.69	2.13	3.69	2.25	0.00	-0.12

Source: Tables 19, A-19, and A-20.

on economic growth. John Tatom (1981) attributed almost all of the 1973 U.S. slowdown to the direct impact of the energy problem, but Denison (1985) gave energy a much more modest role. My procedure for calculating the energy effect is similar to that in Denison (1985).

Viewed over the long run, the energy-economizing processes of 1973-84 look more like a temporarily accentuated version of a long-term trend rather than the catastrophe they seemed to be at the time.

I have made a rather modest estimate of the growth impact of the changed energy situation, as shown in Table 15b. This table compares the actual growth of GDP grossed up by adding energy inputs, with a hypothetical situation that would have occurred if it had been possible to maintain the relation between energy growth and GDP growth in the previous period.

It is clear that the need for energy economy retarded growth generally in 1973-84, and the biggest drag was in the Netherlands, which had built up an industrial structure in the golden age that was energy intensive.

The energy effect thus derived is intended to reflect only the direct impact

on GDP growth. The OPEC shocks clearly had bigger indirect effects on the conjuncture as they exacerbated inflation and created payments problems that induced deflationary policies. They also worsened real GNP (as opposed to GDP) through their terms of trade effect.

F. *Effects of Natural Resource Discovery*

In general I have not taken into account the role of land and natural resources in growth, but it seemed worth considering the role of Dutch exploitation of natural gas discoveries, which boosted output growth strongly from 1968 to 1974, and British exploitation of North Sea oil and gas, which boosted British growth from 1976 to 1983. Neither of these bonanzas had counterpart elsewhere in these countries.

For the 1950-73 period as a whole, natural gas growth accounted for 8 per cent of the increment in Dutch real GDP, and in the U.K., in 1973-84, mining output represented 42 percent of U.K. GDP growth (measuring in both cases at 1980 prices). If all of the increment in this new energy production in these two countries had been a natural resource windfall, one could say that it

raised the Dutch GDP growth rate for 1950–73 from 4.46 to 4.70 percentage points a year, and British GDP growth in 1973–84 from 0.63 to 1.06 percentage points a year.

However, these output gains were not entirely due to natural resource windfalls. North Sea oil exploitation involved heavy capital costs and resource diversion, so we allocate only half of its contribution to natural resource augmentation. In the case of the Netherlands, the resource costs of developing Groningen gas were a good deal smaller, so we have taken 80 percent of the increment as the contribution of natural resources.

G. Costs of Government Regulation and Crime

Over the past fifteen years, all these countries stepped up government regulation. To some degree the regulation was intended to improve the quality of the environment, safety, or welfare or to offset the impact of increased criminality or terrorism. The corresponding improvements are not included in measured GDP, but the cost of achieving them has had some retarding impact on output growth. The costs have probably been most marked in the United States, where their impact has been strengthened by the presence of an exceptionally large legal profession, a tradition of litigation, and an adversary relationship between government and business.

Denison (1985, p. 111) estimated for 1973–82 that U.S. government regulation for pollution abatement reduced measured national output growth by 0.09 percentage points a year and that the cost of dishonesty and crime reduced measured growth by 0.05 percentage points a year. Worker safety and health regulation reduced growth by a further 0.02 points, making a total of 0.16 points a year. In 1948–73 the combined drag from these causes was smaller at 0.04 points.

For the U.S. these Denison results are used for our last two periods. For other countries I assume the pollution abatement and crime factors to be only half of that in the U.S. because other countries have fewer lawyers, less crime, and regulatory agencies that are much more sensitive to the wishes of business (see Maddison 1984a for a fuller statement). I assume that new worker safety and health regulation was unimportant in other countries.

H. Labor Hoarding/Dishoarding

In normal circumstances one would not expect labor hoarding or dishoarding to be significant in advanced capitalist economies over a period of years because market forces would cause workers to be laid off if they ceased to be productive. Even in cases where labor legislation restricts the freedom to fire and hire, labor turnover will solve the employer profitability problem by attrition over a number of years.

However, Japanese companies in the 1970s had a high ratio of permanent to casual employees and a high proportion of workers on long-term contracts. In 1981 70 percent of the U.S. workforce was on long-term contracts, by comparison only 10 percent in Japan. In the U.S., by contrast, most workers have shares in the company, and these shares were a significant part of their total income. In Japan, workers have no shares, and employers can gain a lot from retaining workers. Japanese workers are very flexible, with many bonuses that move with business profits and can amount to a third of earnings in normal times. These bonuses can be squeezed to zero in depressed conditions, which makes it fairly easy for employers to retain workers rather than lay them off. In these conditions, one cannot rely on Japanese unemployment figures to provide a guide to labor slack.

In 1950, it is clear that there was a large degree of underemployment in Ja-

pan. Official unemployment stood at only 1.9 percent of the labor force, but GDP was only 71.5 percent of its 1939 level. I assumed that labor hoarding amounted to a quarter of employment in 1950 and that this labor had been fully dishoarded by 1973. By 1984, there is likely to have been some element of labor hoarding again in Japan, given the very rapid deceleration in growth rates after 1973, with very little movement in the official unemployment count. I assumed, somewhat arbitrarily, that 3 percent of 1984 employment represented disguised unemployment.

The result of these hypotheses can be seen in Table 20 where labor hoarding had a significant negative impact on growth in 1913–50, and in 1973–84, and dishoarding favored growth in 1950–73.

In Germany too, in 1950, recovery of prewar production levels was not complete, and the production structure was in disequilibrium. There was scope for labor hoarding, for 31 percent of employed persons were self-employed or family workers. For Germany, therefore we assumed 10 percent labor hoarding in 1950, and complete dishoarding over the period 1950–73.

I. Use of Capacity Effect

The “use of capacity” adjustment is meant to deal with abnormal situations in terminal or initial years of the periods we have used and was applied only to Germany and Japan in 1950.

In both these economies, I assumed that the slack in the use of physical capital paralleled that in the labor market. In the Japanese case the labor slack consisted of labor hoarding, and in Germany it included both labor hoarding and overt unemployment.

For other countries, no “use of capacity” adjustment was made. The three benchmark years 1913, 1950, and 1973

were all years of high conjuncture in these countries, and although this was definitely not the case for 1984, the low “level of demand” in the latter years was the result of a decade of stagnation in which businessmen had had time to offset the surplus capacity that obviously did prevail within part of the period by reducing the growth of the capital stock below what it would have been at full employment.

It should be noted that accounts such as ours which are concerned with actual growth do not deal fully with the impact of cyclical disturbance. This can only be done by constructing a separate set of “potential output” accounts and comparing the different elements therein with the corresponding “actual accounts” that we have constructed here. The actual accounts include only labor input actually employed, so they are net of cyclical unemployment (which was substantial in 1984).

Table 16 shows what employment inputs would have been in 1973–84 if the 1984 unemployment rate had been at 1973 levels and if everything else had remained as it was. The last column of Table 16 does not figure in our Table 20, because the latter deals with actual and not potential growth.

Denison is the only one of the growth accountants to have developed a full set of “potential output” accounts. In comparing the two sets of accounts in Denison (1985, pp. 111–12), one finds that the two main items are the loss in factor input of 0.71 points in 1973–82, and the loss in output per unit of input 0.35 points. Together they make up 1.06 points, that is, the difference between actual output growth of 1.55 percentage points a year and a potential growth of 2.61 points. The first item is mostly comprised of a loss because of unemployment of 0.68 points and the second is rather similar to the “intensity of demand” ef-

TABLE 16
DIRECT IMPACT OF INCREASED UNEMPLOYMENT ON LABOR INPUT AND POTENTIAL OUTPUT, 1973-84
(average annual compound growth rates)

	Actual Employment	Potential Employment	Potential Impact on Annual Employment Growth of Reducing Unemployment Rates to 1973 Levels	Potential Output Growth Foregone Because of Rise in Unemployment
France	0.02	0.72	0.70	0.49
Germany	-0.61	0.06	0.67	0.47
Japan	0.84	0.97	0.13	0.09
Netherlands	0.62	1.79	1.17	0.82
U.K.	-0.37	0.59	0.96	0.67
U.S.	1.77	2.02	0.25	0.18
Average	0.38	1.03	0.65	0.45

Source: Tables A-7 and A-8. Column 4 is column 3 multiplied by the factor input weight of 0.7 for labor. As explained in the text, Table 16 shows only part of the output foregone because of cyclical slack. For a fuller analysis, see Maddison (1980a) and Denison (1985).

fect of 0.28 in Denison's "actual" accounts. These two total 0.96 and the rest is due to the imputed effects that full employment would have on working hours, activity rates for women, and structural effects.

Denison's potential output accounts are basically an elaboration of the Keynesian counterfactual first developed by Arthur Okun (1962) and used in simple forms subsequently by the U.S. Council of Economic Advisors. It does not attempt to estimate what output would have been if the capital stock had grown differently.

Several other growth accounts have included an "intensity of demand" effect, for example, Kendrick (1981), Carré, Du-bois, and Malinvaud (1972), and Helli-well, Sturm, and Salon (1985). The latter construct their estimate after calculating potential output by regression procedures, and their total cyclical effect is very large for 1973-82. The difficulty with regression analysis, however, is that if some elements are left out of the accounts, those that remain may take over a large part of their "explanatory" power

because of the close correlation of most elements in the growth process. This is well illustrated in our Table 21 where in a situation of acceleration most of the items in the account move in the same direction, and in Table 22 where in a situation of slow growth most of the explanatory items move in the same direction. We should consider that the latter situation is not unusual (see Salon (1985) for comment because of the movements in the quality, capital growth, and other effects).

Summary Statement of Growth "Explained"

We have proceeded through the accounts with successive augmentation of their scope. Each of our successive Π s (see Table 17b) is a kind of residual that shows how much growth is left "unexplained." The simplest statement, in terms of labor productivity, Π^1 , explains at least, and, in particular, does not explain the acceleration/slowdown phenomena. Capital productivity, Π^2 , performs much

TABLE 17a
RESIDUAL (UNEXPLAINED) GROWTH ($\dot{\Pi}^5$)
(annual average compound growth rates)

	1913-50	1950-73	1973-84
France	0.48	1.81	0.59
Germany	0.32	1.63	0.69
Japan	0.13	0.64	0.04
Netherlands	0.41	1.06	0.46
U.K.	0.38	1.06	0.49
U.S.	0.81	0.81	-0.01
Average	0.42	1.17	0.38

Source: Table 20.

better in "explaining" output growth and the acceleration phenomenon, but not the post-1973 slowdown. Moreover, we know that this is only a very partial indicator. When capital is linked with labor in the joint factor productivity index $\dot{\Pi}^3$, more of growth is explained than with $\dot{\Pi}^1$ but a large part of the acceleration/slowdown phenomenon is still "unexplained." Augmented joint factor productivity, $\dot{\Pi}^4$, explains more of

growth than $\dot{\Pi}^3$, but is not much good at explaining acceleration and slowdown. In moving from $\dot{\Pi}^4$ to the $\dot{\Pi}^5$ (residual) measure, we added nine components by way of explanation that are quantified in Table 20. For 1950-73, the "golden age," $\dot{\Pi}^5$, "explains" a good deal more of growth than does $\dot{\Pi}^4$, and, as a consequence, it also reduces the mystery concerning acceleration and slowdown. One can therefore see clear gains in carrying the growth accounts beyond factor productivity analysis.

Table 18 summarizes the net explanatory power of the 14 growth components that were deployed in the causal analysis of Tables 20, 21, and 22. On average the degree of explanation is high and consistent, and the same is true for the explanation of the acceleration/slowdown phenomena. However, the degree of explanation varies significantly across countries, and, within each country, between periods. The weakest of the "explanations" is for the U.S. growth slowdown after 1973, and the strongest is for Japanese growth, and its variance between periods.

TABLE 17b
REDUCING THE RESIDUAL IMPACT OF SUCCESSIVE ROUNDS OF GROWTH ACCOUNTING
(AVERAGE FOR THE SIX COUNTRIES)
(annual average compound growth rates)

	1913-50	1950-73	1973-84	Acceleration 1913-50 to 1950-73	Deceleration 1950-73 to 1973-84
GDP	1.85	5.31	2.10	3.46	-3.21
Labor productivity ($\dot{\Pi}^1$)	1.74	4.84	2.48	3.10	-2.36
Capital productivity ($\dot{\Pi}^2$)	0.46	0.73	-1.78	0.27	-2.51
Joint factor productivity ($\dot{\Pi}^3$)	1.30	3.58	1.19	2.28	-2.39
Augmented joint factor productivity ($\dot{\Pi}^4$)	0.49	2.73	0.50	2.24	-2.23
Residual ($\dot{\Pi}^5$)	0.42	1.17	0.38	0.77	-0.79

Source: Tables 19, 5, 11a, 11b, 20.

TABLE 18
EXPLAINED GROWTH

	1913-50	1950-73	1973-84	Acceleration 1913-50 to 1950-73	Deceleration 1950-73 to 1973-84
	(annual average compound growth rates)			(annual average compound growth rates)	
France	0.58	3.32	1.59	2.74	-1.73
Germany	0.98	4.29	0.99	3.31	3.30
Japan	2.11	8.71	3.74	6.62	4.99
Netherlands	2.02	3.64	1.12	1.62	-2.52
U.K.	0.91	1.96	0.57	1.05	1.39
U.S.	1.97	2.91	2.33	0.94	-0.58
Average	1.43	4.14	1.72	2.71	2.42
				percentage explained	
France	55	65	75	67	59
Germany	75	72	59	72	78
Japan	94	93	99	93	89
Netherlands	83	77	71	71	81
U.K.	71	65	54	61	71
U.S.	71	78	100	100	41
Average	75	75	76	77	70

Source: Tables 20 and 21.

Conclusions

The present survey is intended to show that growth accounts are a useful framework for assembling quantitative "facts" and quantified hypotheses about growth causality in a coherent way. Their usefulness is clear in interpreting developments in six countries over a 71-year period. The explanatory power of the exercise was quite powerful for the countries as a group, though for individual countries the degree to which growth was explained is not always consistent between periods. Some elements in the quantification are much more speculative than others. I therefore tried to keep the assumptions transparent so that the role of different influences can be modified by other analysts who may wish to make partial use of the quantitative framework.

This approach is particularly useful in comparative economic history, which in

the past has often been based on loose description, *intuitu*.

literary models of complexity and the elements in the variation in the simple or increasingly suspicious economic historians.

for better articulation of their facts and hypotheses, have come to use this type of analysis more frequently (see O'Brien 1986).

With the possible exception of those Cambridge economists in the Robinson-Sraffa tradition who still deny the measurability of capital, this approach should not raise serious ideological problems for any economist who concedes that the national accounts are useful. Some growth accountants are rigorously neoclassical, such as Jorgenson, but Denison has both neoclassic and Keynesian elements in his

TABLE 19
BASIC INDICATORS OF GROWTH PERFORMANCE, 1913-84
(annual average compound growth rates)

	1913-50	1950-73	1973-84	1913-50	1950-73	1973-84	1913-50	1950-73	1973-84
	France			Germany			Japan		
Population	0.01	0.96	0.48	0.55	0.94	-0.12	1.31	1.14	0.90
GDP	1.06	5.13	2.16	1.30	5.92	1.68	2.24	9.37	3.78
Employment	0.24	0.48	0.02	0.55	1.04	-0.61	0.85	1.70	0.84
Hours per employee	-0.71	-0.47	1.25	-0.30	-1.08	-0.67	-0.33	-0.15	-0.27
Sex mix	0.01	-0.02	0.17	0.04	0.03	-0.04	0.01	0.00	-0.04
Education	0.52	0.52	0.85	0.35	0.28	0.14	0.86	0.74	0.63
Residential capital	0.39	2.80	2.27	0.40 ^a	5.02	3.25	0.12	6.15	6.44
Nonresidential capital	1.21 ^a	3.92	4.50	1.02 ^a	5.58	3.18	3.36	8.95	7.47
Capital quality	1.50	1.58	1.42	1.50	1.77	1.16	1.50	1.93	1.28
Use of capacity	0.00	0.00	0.00	-0.44	0.82	0.00	-0.80	1.29	0.00
Rate of productivity convergence with lead country	-0.46	2.59	2.45	-1.36	3.42	2.00	-0.70	5.12	2.19
Impact of structural change	0.09	0.46	0.12	0.20	0.36	0.05	0.62	1.22	0.21
Foreign trade volume	0.69	8.79	3.95	-2.36	11.95	3.36	1.06	15.54	5.25
Energy consumption	0.40	4.61	0.12	0.00	4.70	-0.47	1.98	9.21	0.49
	Netherlands			U.K.			U.S.		
Population	1.35	1.24	0.65	0.45	0.48	0.01	1.21	1.45	1.01
GDP	2.43	4.70	1.58	1.29	3.02	1.06	2.78	3.72	2.32
Employment	1.20	1.08	0.62	0.51	0.48	-0.37	1.26	1.60	1.77
Hours per employee	-0.45	-0.82	-0.97	-0.79	-0.64	-0.96	-0.90	-0.38	-0.42
Sex mix	0.00	-0.05	-0.31	-0.02	-0.16	-0.17	-0.09	-0.17	-0.25
Education	0.38	0.62	0.78	0.47	0.29	0.45	0.59	0.58	0.77
Residential capital	1.94	2.63	2.64	1.65	3.04	2.24	1.82	3.29	2.56
Nonresidential capital	2.21	4.31	3.64	0.95	3.40	2.64	1.78	3.43	2.92
Capital quality	1.50	1.90	1.13	1.50	1.72	1.28	1.50	1.69	1.44
Use of capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rate of productivity convergence with lead country	-0.75	1.92	0.96	-0.84	0.70	1.45	0.00	0.00	0.00
Impact of structural change	n.a.	-0.07	-0.30	-0.04	0.10	-0.26	0.29 ^b	0.12	-0.07
Foreign trade volume	1.00	9.26	2.87	0.20	4.50	2.92	2.35	6.47	3.29
Energy consumption	1.64	6.61	-0.72	0.01	1.70	-2.11	1.87	3.00	0.08

Source: Population, GDP, employment, hours, residential and nonresidential capital stock derived from Tables A-2, A-1, A-7, A-9, A-18, and A-16 respectively. Sex mix from Tables A-7 and A-14, giving females a weight of 0.6. Education from Table A-12, giving a weight of 1 to a year of primary education, 1.4 to secondary and 2 to higher, and increments weighted by 0.6. Use of capacity derived from unemployment movements (Table A-8) and labor hoarding estimates as described in the text. Rates of productivity convergence from Table 3. Structural change from Table 12. Foreign trade volume is average of export and import growth in Tables A-21 and A-22. Energy consumption is from Table A-19.

^a net stock; ^b 1909-48.

TABLE 20
SOURCES OF GDP GROWTH, SELECTED PERIODS, 1913-84
(annual average percentage point contribution to growth rate)

	1913-50	1950-73	1973-84	1913-50	1950-73	1973-84	1913-50	1950-73	1973-84
	France			Germany			Japan		
GDP	1.06	5.13	2.18	1.30	5.92	1.68	2.24	9.37	3.78
Labor quantity	-0.67	0.01	-0.86	0.18	-0.03	-0.90	0.36	1.09	0.40
Labor quality	0.36	0.35	0.48	0.22	0.18	0.07	0.61	0.52	0.41
Labor hoarding	0.00	0.00	0.00	-0.20	0.32	0.00	-0.56	0.90	-0.22
Residential capital quantity	0.03	0.20	0.16	0.03	0.35	0.23	0.01	0.43	0.45
Nonresidential capital quantity	0.28	0.90	1.04	0.23	1.28	0.80	0.77	2.06	1.72
Capital quality	0.45	0.56	0.43	0.45	0.53	0.35	0.45	0.58	0.38
Capacity use effect	0.00	0.00	0.00	-0.13	0.25	0.00	-0.24	0.39	0.00
Catch-up effect	0.00	0.52	0.49	0.00	0.68	0.40	0.00	1.02	0.44
Structural effect	0.09	0.46	-0.12	0.20	0.36	0.05	0.62	1.22	0.21
Foreign trade effect	0.01	0.19	0.06	-0.04	0.21	0.06	0.02	0.26	0.05
Economies of scale	0.03	0.15	0.07	0.04	0.18	0.05	0.07	0.28	0.11
Energy effect	0.00	0.00	-0.09	0.00	0.00	-0.05	0.00	0.00	-0.14
Natural resource effect	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Regulation/crime	0.00	-0.02	-0.07	0.00	-0.02	-0.07	0.00	-0.02	-0.07
Total "explained"	0.58	3.32	1.59	0.98	4.29	0.99	2.11	5.73	3.74
Residual	0.48	1.81	0.59	0.32	1.63	0.69	0.13	0.64	0.04
Percentage "explained"	55	65	73	75	72	59	94	93	99
	Netherlands			U.K.			U.S.		
GDP	2.43	4.70	1.58	1.29	3.02	1.06	2.75	3.72	2.32
Labor quantity	0.53	0.18	-0.25	-0.20	-0.11	-0.93			0.07
Labor quality	0.27	0.40	0.33	0.32	0.09				
Labor hoarding	0.00	0.00	0.00	0.00	0.00				
Residential capital quantity	0.14	0.18	0.18	0.12	0.21				
Nonresidential capital quantity	0.51	0.99	0.84	0.22	0.75				
Capital quality	0.45	0.57	0.34	0.45	0.52				
Capacity use effect	0.00	0.00	0.00	0.00	0.00	"			
Catch-up effect	0.00	0.38	0.19	0.00	0.14	0.29			
Structural effect	0.00	0.07	-0.30	-0.04	0.10	-0.26	0.29	0.12	0.07
Foreign trade effect	0.05	0.65	0.12	0.00	0.16	0.06	0.01	0.05	0.02
Economies of scale	0.07	0.14	0.05	0.04	0.09	0.03	0.08	0.11	0.07
Energy effect	0.00	0.05	-0.31	0.00	0.00	0.12	0.00	0.00	-0.12
Natural resource effect	0.00	0.19	0.00	0.00	0.00	0.22	0.00	0.00	0.00
Regulation/crime	0.00	0.02	0.07	0.00	0.02	0.07	0.00	-0.04	0.16
Total "explained"	2.02	3.64	1.12	0.91	1.96	0.57	1.97	2.91	2.33
Residual	0.41	1.06	0.46	0.38	1.06	0.49	0.81	0.81	-0.01
Percentage "explained"	83	77	71	71	65	54	71	78	100

Source: Derived from Table 19, using a weight of 0.70 for the labor components, 0.07 for residential capital, 0.23 for nonresidential capital, and 0.30 for capital quality. The catch-up effect was calculated by assuming a 20 percent bonus from the productivity convergence process, the structural effect is the same as in Table 19, the foreign trade effect is 10 percent of the trade growth shown in Table 19 for the first and last periods and 20 percent for 1950-73 multiplied by the trade to GDP ratios (average for imports and exports) shown in Table A.23. The energy effect is from Table 15b. Natural resource effect is described in the text. The U.S. regulation/crime effect is taken from Denison (1985, p. 111). For other countries the worker safety effect is not counted and the other U.S. effects are assumed to have had half the impact they had in the U.S. Economies of scale are 3 percent of GDP growth rate. Capacity use effect as described in text.

TABLE 21
GROWTH ACCELERATION: 1950-73 PERFORMANCE COMPARED WITH 1913-50
 (annual average percentage point contribution to growth acceleration)

	France	Germany	Japan	Netherlands	U.K.	U.S.
GDP	4.07	4.62	7.13	2.27	1.73	0.94
Labor quantity	0.68	-0.21	0.73	-0.35	0.09	0.60
Labor quality	-0.01	-0.04	-0.09	0.13	-0.23	-0.06
Labor hoarding	0.00	0.52	1.46	0.00	0.00	0.00
Residential capital quantity	0.17	0.32	0.42	0.04	0.09	0.10
Nonresidential capital quantity	0.62	1.05	1.29	0.48	0.56	0.38
Capital quality	0.11	0.08	0.13	0.12	0.07	0.06
Capacity use effect	0.00	0.38	0.63	0.00	0.00	0.00
Catch-up effect	0.52	0.68	1.02	0.38	0.14	0.00
Structural effect	0.37	0.16	0.60	-0.07	0.14	-0.17
Foreign trade effect	0.18	0.25	0.24	0.60	0.16	0.04
Economies of scale	0.12	0.14	0.21	0.07	0.05	0.03
Energy effect	0.00	0.00	0.00	0.05	0.00	0.00
Natural resource effect	0.00	0.00	0.00	0.19	0.00	0.00
Regulation/crime	0.02	-0.02	-0.02	-0.02	-0.02	-0.04
Total "explained"	2.74	3.31	6.62	1.62	1.05	0.94
Residual	1.33	1.31	0.51	0.65	0.68	0.00
Percentage "explained"	67	72	93	71	61	100

Source: Derived from Table 20.

TABLE 22
GROWTH DECELERATION: 1973-84 PERFORMANCE COMPARED WITH 1950-73
 (annual average percentage point contribution to growth slowdown)

	France	Germany	Japan	Netherlands	U.K.	U.S.
GDP	-2.95	-4.24	-5.59	3.12	1.96	-1.40
Labor quantity	-0.87	-0.87	-0.69	0.43	0.82	0.10
Labor quality	0.13	-0.11	-0.11	-0.07	0.11	0.07
Labor hoarding	0.00	-0.32	-1.12	0.00	0.00	0.00
Residential capital quantity	-0.04	-0.12	0.02	0.00	-0.05	-0.05
Nonresidential capital quantity	0.14	-0.48	-0.34	0.15	-0.17	-0.12
Capital quality	-0.13	-0.18	-0.20	-0.23	-0.14	-0.08
Capacity use effect	0.00	-0.25	-0.39	0.00	0.00	0.00
Catch-up effect	-0.03	-0.28	-0.58	-0.19	0.15	0.00
Structural effect	-0.58	-0.31	-1.01	-0.23	-0.36	-0.19
Foreign trade effect	-0.13	-0.15	-0.21	-0.53	-0.10	-0.03
Economies of scale	-0.08	-0.13	-0.17	-0.09	-0.06	0.04
Energy effect	-0.09	-0.05	-0.14	-0.36	-0.12	-0.12
Natural resource effect	0.00	0.00	0.00	-0.19	0.22	0.00
Regulation/crime	-0.05	-0.05	-0.05	-0.05	-0.05	-0.12
Total "explained"	-1.73	-3.30	-4.99	-2.52	-1.39	-0.58
Residual	-1.22	-0.94	-0.60	-0.60	-0.57	-0.82
Percentage "explained"	59	78	89	81	71	41

Source: Derived from Table 20.

accounts, plus a large dose of Yankee ingenuity. Indeed, large elements in this kind of approach can be used by Marxists (see Thomas Weisskopf, Samuel Bowles, and David Gordon 1983 for an analogous endeavor).

It must of course be recognized that this approach mixes hard and soft evidence. The harder evidence relates to the measures of GDP, labor input, and capital stock, and even these are subject to revision in the light of more refined use of evidence. Most of the other components are soft evidence based on hypotheses on which there may be quite legitimate differences of opinion. This is true even for measures of the impact of education on labor quality on which there is a huge and very sophisticated literature. It is also clear that there is a great deal of interaction between causes, and particularly between capital growth and technical progress, which makes it difficult to assign separate significance to

each. For this reason, policy inferences from such accounts should be heavily qualified.

It should also be emphasized that this approach deals only with proximate causality, and one has to look behind this to institutions, ideology, sociopolitical conflicts, degree of sophistication of policy, system shocks such as wars, and other historical accidents to get a fuller picture.

This type of analysis would not have been possible 30 years ago, when measures of past growth were much scarcer, so a great deal is owed to the scholars who have prepared the ground. There is little doubt that the analysis can ultimately be pushed back further into the nineteenth century, as estimates of growth, and particularly, of capital stock are improved. This is all the more necessary as circumstances in the decades before 1913 were more normal than in 1913–50.

TABLE A-1
REAL GDP LEVELS AT 1984 PURCHASING POWER PARITY, 1870-1984
(\$ billion)

	France	Germany	Japan	Netherlands	U.K.	U.S.
1870	59.27	33.98	19.28	8.26	77.95	78.61
1890	78.58	54.43	31.01	n.a.	116.92	188.59
1913	119.99	111.75	54.76	20.33	174.78	454.53
1929	150.93	135.33	97.94	33.86	195.57	740.72
1938	144.93	188.97	134.54	34.89	231.58	698.00
1950	173.49	179.92	124.34	49.40	281.04	1,257.86
1960	271.03	387.21	295.17	76.99	372.80	1,735.92
1973	547.98	675.49	976.50	142.20	556.60	2,911.78
1984	694.70	811.60	1,468.40	168.90	625.20	3,746.50

Source: GDP movement 1870-1952 from Maddison (1982), except Japan 1913-40, from Ohkawa and Miyohei Shinohara (1979, pp. 278-80), 1940-50 derived from pp. 259-69; 1950-52 from Ohkawa and Rosovsky (1973, p. 289), 1952-84 and 1984 purchasing power parities from OECD(d) various issues. The level of U.S. GDP for 1984 was raised by \$111.9 billion in line with preliminary U.S. Dept. of Commerce revisions. All figures are adjusted to refer to product within the present-day geographic boundaries of the countries. This article was written before the revised U.S. national income and product accounts were fully available. Revised U.S. GDP in 1984 prices (on an OECD conceptual basis) is now as follows.

1870	80.11	1929	754.80	1960	1,793.38
1890	192.18	1938	708.49	1973	2,931.80
1913	463.18	1950	1,282.81	1984	3,713.02

These revisions (see OECD(d) 1960-85 edition and U.S. Department of Commerce, 1986) came too late to be incorporated in our analysis, but a rough check suggests that they do not lead to any serious change in our findings. In particular, they do not remove the sharp slowdown in the U.S. economy after 1973 which Darby (1984) suggested was an artifact deriving from official mismeasurement of GDP. It should be kept in mind that revisions in growth rates and levels of at least these dimensions can be expected to occur periodically in all the countries.

TABLE A-2
POPULATION ADJUSTED TO PRESENT-DAY BOUNDARIES
(000s at midyear)

	France	Germany	Japan	Netherlands	U.K.	U.S.
1870	38,440	24,870	34,437	3,607	29,185	40,061
1913	41,690	40,825	51,672	6,164	32,622	97,606
1950	41,836	49,983	83,662	10,114	50,363	152,271
1960	45,684	55,433	94,117	11,486	52,559	180,671
1973	52,119	61,976	108,660	13,439	56,210	211,909
1984	54,947	61,175	120,020	14,424	56,488	236,681

Source: Maddison (1982) and OECD(c).

TABLE A-3
POPULATION WITH FRONTIERS OF YEAR CITED^a
(000s at midyear)

	France	Germany	Japan	Netherlands	U.K.	U.S.
1870	38,440	39,231	34,437	3,607	31,393	39,905
1913	39,770	66,978	51,672	6,164	45,649	97,227
1950	41,836	49,983	82,900	10,114	50,363	151,683
1960	45,684	55,433	93,260	11,486	52,559	180,671
1973	52,119	61,976	108,660	13,439	56,210	211,909
1984	54,947	61,175	120,020	14,424	56,488	236,681

Source: Maddison (1982) and OECD(c).

^aThat is, not adjusted for territorial change.

TABLE A-4
GDP PER HEAD OF POPULATION

	France	Germany	Japan	Netherlands	U.K.	U.S.
1870	1,542	1,366	560	2,290	2,671	1,962
1913	2,878	2,737	1,060	3,298	4,101	4,657
1950	4,147	3,600	1,486	4,884	5,000	8,261
1960	5,933	6,985	3,136	6,703	7,093	9,608
1973	10,514	10,899	8,957	10,581	9,902	13,741
1984	12,643	13,267	12,235	11,710	11,068	15,529

Source: Derived from Tables A-1 and A-2

TABLE A-5
LABOR PRODUCTIVITY LEVEL (GDP PER HOUR WORKED)
(\$ at 1984 purchasing power)

	France	Germany	Japan	Netherlands		
1870	1.05	1.13	0.37	2.02	2.13	1.92
1890	1.42	1.63	0.53	n.a.	2.82	2.96
1913	2.21	2.50	0.81	3.35	3.59	4.49
1929	3.21	3.11	1.42	4.96	4.52	6.60
1938	4.14	3.85	1.77	6.91	4.91	7.01
1950	4.54	3.67	1.52	6.17	6.61	10.93
1960	6.95	7.13	2.70	8.62	8.04	13.98
1973	14.31	13.94	8.39	16.77	13.19	19.16
1984	20.78	19.28	11.85	20.72	17.17	21.31

Source: Derived from Tables A-1, A-7, and A-9

TABLE A-6
 SECTORAL LABOR PRODUCTIVITY GROWTH (VALUE ADDED PER PERSON EMPLOYED), 1913-84
 (annual average compound growth rate)

	1913-50	1950-73	1973-84
Agriculture			
France	1.8	5.9	4.8
Germany	-0.4	6.3	4.5
Japan	0.5	7.3	2.1
Netherlands	n.a.	6.0	5.6
U.K.	2.5	4.6	4.2
U.S.	1.6 ^a	5.4	2.5
Average	1.2	5.9	4.0
Industry (Including Construction)			
France	1.4	5.2	3.1
Germany	1.3	5.6	2.7
Japan	0.7	9.5	3.7
Netherlands	n.a.	5.6	2.2
U.K.	1.4	2.9	2.9
U.S.	1.5 ^a	2.2	0.8
Average	1.3	5.2	2.6
Services			
France	0.4	3.0	1.1
Germany	-0.2	2.8	1.7
Japan	0.9	4.0	1.9
Netherlands	n.a.	1.8	0.2
U.K.	0.7	2.0	0.6
U.S.	1.0 ^a	1.4	0.4
Average	0.6	2.5	1.0

Source. As for Table A-1.

^a 1909-48; ^b 1973-83.

TABLE A-7
EMPLOYMENT (000s)

	France	Germany	Japan	Netherlands	U.K.	U.S.
1870	19,126	10,260	17,685	1,361	12,285	13,826
1890	19,940	12,043	21,174	1,690	14,764	22,817
1913	21,013	17,303	26,046	2,330	18,566	38,821
1929	20,488	19,037	29,171	3,023	18,936	47,915
1938	18,948	21,204	31,855	3,169	20,818	48,271
1950	19,218	21,164	35,683	3,625	22,400	61,651
1960	19,662	26,080	44,670	4,101	24,225	69,195
1973	21,455	26,849	52,590	4,646	24,993	88,868
1984	21,509	25,111	57,660	4,971	23,954	107,734

Source: As described in Maddison (1984a, p. 85), except for France and U.S. France 1870-90 revised from INSEE (1966, p. 43). U.S. 1910-50 from Stanley Lebergott (1964, p. 512) with female farm employment adjusted upward to maintain a uniform female/male farm ratio at Lebergott's 1940 level. See U.S. Dept. of Commerce (1975, Part I, pp. 127-28) for census figures on male and female farm employment. The figures for this period were then adjusted upward by 0.4121 percent to allow for the fact that Alaska and Hawaii were added in 1950. For 1938, New Deal relief workers were added to Lebergott's employment figure (see Michael Darby 1976). For 1870-1910 it was assumed that employment grew parallel with the population aged 15-64. Proportion of working age derived from U.S. Dept. of Commerce (1975, Part I, p. 15). For 1960-84 U.S. employment was augmented to include 14- and 15-year-olds (data supplied by BLS). All figures for all countries are adjusted to refer to the geographic area within 1984 frontiers.

TABLE A-8
UNEMPLOYMENT AS PERCENTAGE OF TOTAL LABOR FORCE

	1913	1950	1973	1984
France	n.a.	2.3	2.6	9.7
Germany	n.a.	8.2	0.7	7.7
Japan	n.a.	1.9	1.3	2.7
Netherlands	n.a.	2.8	3.1	14.7
U.K.	2.1	2.5	3.1	12.8
U.S.	4.3	5.2	4.8	7.4

Source: 1913 and 1950 from Maddison (1982). 1973 and 1984 figures supplied by U.S. Bureau of Labor Statistics. The figures are adjusted to be comparable with U.S. concepts.

TABLE A-9
HOURS WORKED PER PERSON PER YEAR

	France	Germany	Japan	Netherlands	U.K.	U.S.
1870	2,945	2,941	2,945	2,964	2,984	2,964
1890	2,770	2,765	2,770	2,789	2,807	2,789
1913	2,588	2,584	2,588	2,605	2,624	2,605
1929	2,297	2,284	2,364	2,260	2,286	2,342
1938	1,848	2,316	2,391	2,244	2,267	2,062
1950	1,989	2,316	2,289	2,208	1,958	1,867
1960	1,983	2,081	2,450	2,177	1,913	1,795
1973	1,785	1,805	2,213	1,825	1,688	1,710
1984	1,554	1,676	2,149	1,640	1,518	1,632

Source: As described in Maddison (1984a, p. 85). Germany 1960 onward revised from IAB (Institut für Arbeitsmarkt- und Berufsforschung der Bundesanstalt für Arbeit) 1985/1. U.S. 1973 onward revised upward on the basis of Janice Hedges (1977) and Kent Kunze (1984). For 1960 onward the breakdown of the hours estimates was made as shown in Tables A-10 and A-11. For earlier years the procedure was cruder (see Maddison 1980a and Maddison 1982 for further detail of the procedures).

TABLE A-10
ESTIMATED BREAKDOWN OF AVERAGE HOURS PER PERSON EMPLOYED IN 1983

	Net Hours ^a Worked per Day	Days Worked per Year	Hours Worked per Year
France	7.570	206.00	1,560
Germany	7.953	211.45	1,682
Japan	7.956	267.75	2,131
Netherlands	7.758	213.50	1,656
U.K.	7.344	205.83	1,512
U.S.	7.000	231.25	1,619

Source. Estimates derived by merging data from various sources. Methods and sources for France, Germany, and U.K. described in Maddison (1980a); updated figures for France kindly supplied by R. Granier. For other countries from the sources described in Maddison (1984a, p. 85). For the U.S., Kunze (1984) and Hedges (1977) served as guidelines, but I assume somewhat more time off as my employment figures for the U.S. include government workers and 14- and 15-year-olds.

^a Includes impact of overtime, involuntary short-time, and voluntary part-time working

TABLE A-11
APPROXIMATE BREAKDOWN OF AVERAGE DAYS OFF PER PERSON EMPLOYED IN 1983

	Weekend Days	Public Holidays	Vacations	Sickness, Strikes, Bad Weather, and Personal
France	105.00	10.00	30.00	14.00
Germany	105.00	9.00	29.10	
Japan	65.25	12.00	12.00	
Netherlands	105.00	6.00	24.50	
U.K.	105.00	8.00	25.02	
U.S.	105.00	9.00	11.35	

Source. See Table A-10.

TABLE A-12
AVERAGE YEARS OF FORMAL EDUCATIONAL EXPERIENCE OF THE POPULATION AGED 15-64
IN 1913, 1950, 1973, AND 1984

		Total	Primary	Secondary	Higher
France	1913	6.18	4.31	1.77	0.10
	1950	8.18	4.96	3.04	0.18
	1973	9.58	5.00	4.11	0.47
	1984	10.79	5.00	4.89	0.90
Germany	1913	6.94	3.50	3.35	0.09
	1950	8.51	4.00	4.37	0.14
	1973	9.31	4.00	5.11	0.20
	1984	9.48	4.00	5.17	0.31
Japan	1913	5.10	4.50	0.56	0.04
	1950	8.12	5.88	2.08	0.16
	1973	10.18	6.00	3.79	0.39
	1984	11.15	6.00	4.56	0.59
Netherlands	1913	6.05	5.30	0.64	0.11
	1950	7.41	6.00	1.17	0.24
	1973	8.88	6.00	2.49	0.39
	1984	9.92	6.00	3.34	0.58
U.K.	1913	7.28	5.30	1.90	0.08
	1950	9.40	6.00	3.27	0.13
	1973	10.24	6.00	3.99	0.25
	1984	10.92	6.00	4.50	0.42
U.S.	1913	6.93	4.90	1.83	0.20
	1950	9.46	5.61	3.40	0.45
	1973	11.31	5.80	4.62	0.89
	1984	12.52	5.80	5.10	1.62

Source. OECD(h) (vol. 1, pp. 31-108) and its underlying worksheets. Methodology and classification were used for most countries. These give figures for postwar census years. 1913 was derived from postwar census information on education of older cohorts. Thus in the 1950 U.S. census the average levels of education for population aged 15-64 were roughly equivalent to those for people aged 43. It was assumed therefore that the average education level for 1913 would correspond approximately to the education level of people 80 years old in 1950, however, for most European countries, the postwar census simply assumed that everyone had completed the full primary cycle, which was obviously not correct for 80-year-olds. We therefore had to make somewhat rough assumptions for primary education levels in 1913. For France the 1913 levels were derived from Carré, Dubois, and Malinvaud (1972, p. 93), and for Japan the 1913 level is derived from Ohkawa and Rosovsky (1973, pp. 56-57). Matthews, Feinstein, and Odling-Smee (1982, p. 573) give estimates for England and Wales 1871-1961. These provide a cross-check on our crude figures, which are intended to cover the whole of the U.K.

TABLE A-13
EMPLOYMENT STRUCTURE, 1870-1984
(percentages of total employment)

		France	Germany	Japan	Netherlands	U.K.	U.S.	Average
Agriculture	1870	49.2	49.5	67.5 ^a	37.0	22.7	50.0	46.0
	1913	37.4	34.6	64.3	26.5	11.0	32.3	34.4
	1950	28.5	22.2	48.3	13.9	5.1	13.0	21.8
	1960	21.9	13.8	30.2	9.5	4.6	8.2	14.7
	1973	11.0	7.2	13.4	5.7	2.9	4.1	7.4
	1984	7.6	5.5	8.9	4.9	2.6	3.3	5.5
Industry	1870	27.8	28.7	13.8 ^a	29.0	42.3	24.4	27.7
	1913	33.8	37.8	13.9	33.8	44.8	29.3	32.2
	1950	34.8	43.0	22.6	40.2	46.5	33.3	36.7
	1960	36.3	48.2	28.5	39.2	46.7	34.3	38.9
	1973	38.4	46.6	37.2	35.7	41.8	32.5	38.7
	1984	32.0	40.5	34.8	26.4	32.4	28.0	32.4
Services	1870	23.0	21.8	18.7 ^a	34.0	35.0	25.6	26.4
	1913	28.8	27.6	21.8	39.7	44.2	38.4	33.4
	1950	36.7	34.8	29.1	45.9	48.4	53.7	41.4
	1960	41.8	38.0	41.3	51.3	48.7	57.5	46.4
	1973	50.6	46.2	49.4	58.6	55.3	63.4	53.9
	1984	60.4	54.0	56.3	68.7	65.0	68.7	62.2

Source: Paul Bairoch (1968) for France 1870 and Netherlands 1870-1913; Carré, Dubois, and Mahyand (1972) for France 1913-50; Oikawa and Shinokura (1979) for Japan 1906-50; Feinstein (1972) for U.K. 1870-1950; Kendrick (1961) and Lebergott (1964) for U.S. 1870-1950 (adjusted to correct for census fluctuations in farm employment) 1960-84 from OECD(c). "Agriculture" comprises agriculture, forestry, and fishery. "Industry" comprises manufacturing, electricity, gas, water, and construction. "Services" is a residual private and governmental (including military).

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TABLE A-14
FEMALES AS A PROPORTION OF EMPLOYMENT, 1913-84

	1913	1950	1960	1973	1984
France	35.6	36.0	33.4	37.1	41.2
Germany	32.4	35.1	37.4	36.8	37.9
Japan	38.9	38.5	40.4	38.5	39.5
Netherlands	23.6	23.4	22.4	26.4	33.8
U.K.	29.1	30.8	33.7	38.7	42.5
U.S.	21.7	28.8	32.1	37.5	43.0

Source: 1913 from Maddison (1982), 1950-84 from OECD(c).

TABLE A-15
TOTAL REPRODUCIBLE FIXED CAPITAL STOCK (ASSET WEIGHTS) AT MIDYEAR, 1913-84
(1950 = 100.00)

	France	Germany	Japan	Netherlands	U.K.	U.S.
			<u>Gross Stock</u>			
1913	n.a.	n.a.	56.66	45.99	65.17	51.34
1950	100.00	100.00	100.00	100.00	100.00	100.00
1960	126.62	163.09	156.06	138.46	128.51	137.18
1973	226.56	331.78	584.77	238.25	210.13	214.74
1984	348.67	478.99	1,255.23	344.53	276.06	290.66
			<u>Net Stock</u>			
1913	70.61	76.01	n.a.	n.a.	74.29	56.31
1950	100.00	100.00	n.a.	n.a.	100.00	100.00
1960	138.19	190.30	n.a.	n.a.	133.50	147.66
1973	n.a.	404.76	n.a.	n.a.	234.12	242.13
1984	n.a.	563.21	n.a.	n.a.	301.72	316.10

Source: Derived from Tables A-16 and A-18 using asset weights to add the two broad categories of capital (residential and nonresidential) together. Figures refer to midyear. The estimates for Germany and the U.K. are corrected for boundary changes, the French figures are assumed to be so corrected.

TABLE A-16
MIDYEAR NONRESIDENTIAL FIXED CAPITAL STOCK AT CONSTANT PRICES
(1950 = 100.00)

	France	Germany	Japan	Netherlands	U.K.	U.S.
			<u>Gross Stock</u>			
1870	n.a.	n.a.	n.a.	n.a.	35.61	7.04
1913	n.a.	n.a.	29.46	44.54	70.48	52.03
1950	100.00	100.00	100.00	100.00	100.00	100.00
1960	126.20	162.19	175.53	143.07	129.66	135.63
1973	242.20	348.98	717.64	263.86	215.57	217.32
1984	393.02	508.65	1,584.42	390.88	287.04	298.39
			<u>Net Stock</u>			
1870	n.a.	18.58	n.a.	n.a.	49.91	8.01
1913	64.02	68.71	n.a.	n.a.	54.62	57.10
1950	100.00	100.00	n.a.	n.a.	100.00	100.00
1960	133.93	185.67	n.a.	n.a.	137.02	144.97
1973	283.79	414.12	n.a.	n.a.	249.06	245.37
1984	439.10	582.35	n.a.	n.a.	321.30	321.64

Source. France 1913-55 from Carré, Dubois, and Malinvaud (1972, pp. 189-204, and 659), updated by figures supplied by OECD for 1955-84. Germany 1870-1950 from Maddison (1982) updated from Statistisches Bundesamt (1986). Japan 1913-70 from Ohkawa and Shinohara (1979, pp. 366-69) with rough estimates for the 1940-54 link from capital formation figures in the same source; for 1970 onward the figures were updated by figures supplied by OECD for the private sector, and the increment in the stock of government capital was calculated by cumulating constant price investment figures in OECD(d) with scrapping derived from investment figures for earlier periods from Ohkawa and Shinohara. Netherlands 1913-50 and 1973-84 from methods used in Maddison and Walpstra (1982) assuming a 1913 capital output ratio of 2.1, 1950-73 from Henk-Jan Brinkman. U.K. 1870-1948 from Feinstein (1972), 1948-84 figures supplied by Central Statistical Office. U.S. 1926 net stock from Kendrick (1961, pp. 320-25), 1926-84 from John Musgrave. The estimates for Germany and the U.K. were adjusted to a midyear basis. The estimates for France were presumed to be so adjusted.

TABLE A-17
MIDYEAR STOCK OF NONRESIDENTIAL FIXED CAPITAL BY COMPONENT, 1870-1984
(1950 = 100.00)

	France	Germany	U.K.	U.S.	France	Germany	U.K.	U.S.
	Midyear Stock of Nonresidential Structures at Constant Prices				Midyear Stock of Equipment at Constant Prices			
				<u>Gross Stock</u>				
1870	n.a.	n.a.	40.61	n.a.	n.a.	n.a.	26.62	n.a.
1913	n.a.	n.a.	76.01	n.a.	n.a.	n.a.	60.54	n.a.
1950	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1960	114.07	157.90	119.75	128.78	158.37	172.30	147.44	155.59
1973	173.55	331.10	190.85	196.91	424.32	391.09	259.95	276.79
1984	246.34	492.77	250.85	250.99	782.20	546.04	352.02	476.45
				<u>Net Stock</u>				
1870	n.a.	21.93	60.98	8.63	n.a.	14.19	31.49	6.35
1913	n.a.	66.63	100.61	62.76	n.a.	71.44	58.00	41.95
1950	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1960	121.10	176.10	127.99	142.47	163.61	218.70	152.06	151.66
1973	211.17	391.72	239.39	233.88	451.86	191.39	265.15	276.19
1984	292.67	566.18	314.94	286.72	778.00	638.14	331.90	415.24

Source: As for Table A-16.

TABLE A-18
MIDYEAR RESIDENTIAL CAPITAL STOCK AT CONSTANT PRICES, 1870-1984
(1950 = 100.00)

	France	Germany	Japan	Netherlands	U.K.	U.S.
			<u>Gross</u>			
1870	n.a.	n.a.	n.a.	n.a.	29.33	n.a.
1913	86.51	n.a.	95.54	49.20	54.58	51.34
1950	100.00	100.00	100.00	100.00	100.00	100.00
1960	127.64	164.31	128.24	128.24	126.24	139.71
1973	188.85	308.31	394.90	181.51	199.29	210.50
1984	241.72	438.54	784.84	241.85	254.16	277.96
			<u>Net</u>			
1870	n.a.	23.65	n.a.	n.a.	30.41	6.16
1913	89.35	86.20	n.a.	n.a.	56.58	55.09
1950	100.00	100.00	n.a.	n.a.	100.00	100.00
1960	149.55	196.77	n.a.	n.a.	127.45	151.76
1973	n.a.	391.68	n.a.	n.a.	208.51	237.18
1984	n.a.	536.47	n.a.	n.a.	268.14	307.65

Source: France to 1966 from Carré, Dubois, and Mallinvaud (1972, pp. 187, 189, and 204), increments to gross stock thereafter calculated from housing construction figures in UN, various issues. Germany, Japan, U.K., and U.S. from same sources as in Table A-16. Netherlands is an average of figures for physical stock of houses and of rooms from CBS (1979) and figures supplied by CBS for later years.

TABLE A-19
ENERGY CONSUMPTION (MILLION TONS OF OIL EQUIVALENT)

	1913	1950	1960	1973	1978	1984
France	55.7	64.6	90.4	182.2	191.8	184.7
Germany	93.8	93.9	145.8	269.8	275.2	256.3
Japan	21.7	44.9	91.7	340.4	362.3	359.3
Netherlands	7.77	14.2	21.9	61.9	65.9	57.2
U.K.	157.5	158.3	169.7	233.2	212.2	184.5
U.S.	436.5	866.0	1,014.2	1,711.0	1,882.3	1,726.3

Source: 1913 European countries from Mitchell (1975, pp. 361-67, 409-18) for coal and oil production and trade, with an addition of 15 percent for other energy sources (wood, water, wind, etc.) for France; 10 percent for Germany and 4 percent for the U.K. and Netherlands; Japan 1913 from Bank of Japan (1966) data on production and trade in coal and oil, with a 25 percent addition for other energy sources; Hiroaki Fukami (1996); U.S. 1913 from J. Frederick Dewhurst (1955, p. 1114); 1950 from W. S. Woytinsky and E. S. Woytinsky (1953, p. 941) converted from coal to oil equivalent (using an adjustment factor of 0.324675); 1960 from OECD(d) (July 1979) and IEA (1979), 1973-84 supplied by IEA. The 1913 figures were adjusted for territorial change, so the estimates refer throughout to consumption within the present area.

TABLE A-20
ENERGY INPUTS AS PERCENTAGE OF REAL GDP AT CURRENT FACTOR COST

	1973	1978	1983
France	1.73	5.21	7.29
Germany	2.06	6.33	8.7
Japan	1.65	4.98	6.8
Netherlands	2.16	6.87	8.7
U.K.	2.14	6.1	8.7
U.S.	2.75	8.9	11.2
Average	2.09	6.1	8.7

Source: Energy consumption from Table A-19 valued at import prices (\$19.54 in 1973, \$212.38 in 1983); GDP at factor cost converted to dollars at OECD purchasing power from OECD(d) (1985, vol. 1).

TABLE A-21
VOLUME OF EXPORTS
(1913 = 100.00)

	France	Germany	Japan	Netherlands	U.K.	U.S.
1913	100.0	100.0	100.0	100.0	100.0	100.0
1929	147.0	91.8	257.9	171.2	81.3	158.2
1938	91.0	57.0	588.3	140.0	57.3	125.7
1950	149.2	34.8	210.1	171.2	100.0	224.6
1960	298.4	154.7	924.4	445.1	120.0	387.9
1973	922.4	514.3	5,672.7	1,632.1	241.9	912.0
1984	1,459.5	774.0	14,425.2	2,383.7	349.1	1,161.5

Source. 1913-73 from Maddison (1982), 1973-84 from IMF.

TABLE A-22
VOLUME OF IMPORTS
(1913 = 100.00)

	France	Germany	Japan	Netherlands	U.K.	U.S.
1913	100.0	100.0	100.0	100.0	100.0	100.0
1929	133.0	99.1	259.8	115.4	125.8	191.7
1938	107.0	87.7	386.9	98.2	127.0	137.7
1950	111.5	48.8	103.4	121.5	115.4	247.7
1960	217.9	191.3	520.2	243.0	182.1	373.5
1973	870.3	594.1	2,943.7	747.7	361.0	1,091.6
1984	1,288.0	815.6	3,525.3	953.3	471.2	1,745.8

Source. 1913-50 Maddison (1962) except for Japan, which is from Ohkawa and Rosovsky (1973, p. 302); 1950-84 from IMF.

TABLE A-23
RATIO OF MERCHANDISE TRADE TO GDP AT CURRENT PRICES

	Exports			Imports		
	1913	1950	1973	1913	1950	1973
France	15.9	10.6	14.3	19.5	10.6	14.7
Germany	17.0	8.5	19.4	18.1	11.6	15.8
Japan	14.9	7.8	9.0	16.5	9.1	9.3
Netherlands	36.8	28.6	39.8	66.8	41.6	40.5
U.K.	19.8	16.7	17.1	24.9	19.3	22.2
U.S.	6.1	3.6	5.3	5.1	3.4	5.5

Source: those cited in Maddison (1983, p. 596) and Maddison (1964, p. 67).

TABLE A-24
RESEARCH AND DEVELOPMENT EXPENDITURE AS PERCENTAGE OF GDP

	1960	1973	1983
France	1.3	1.8	2.1 ^c
Germany	1.0	2.1	2.6
Japan	1.4	2.0	2.5 ^c
Netherlands	2.0 ^a	1.9	2.0 ^c
U.K.	2.5	2.1 ^b	2.4 ^d
U.S.	2.7	2.4	

Source: 1960 from Kendrick (1981, p. 158); other years from OECD Science 1984.

^a 1964, ^b 1972, ^c 1982, ^d 1981.

TABLE A-25
RESEARCH AND DEVELOPMENT EXPENDITURE AT 1981 C
(\$ billion)

	1960	1973	1983
France	3.52	9.86	21.1
Germany	3.71	14.13	27.7
Japan	4.01	19.53	36.71
Netherlands	1.54	2.70	3.38
U.K.	9.39	11.69	15.00
U.S.	46.35	69.88	101.16
Total	68.52	127.85	191.94
Total as share of six-country GDP	2.2	2.2	2.6
U.S. share of total (percent)	68	55	53

Source: Tables A-1 and A-24

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Auctions and Bidding

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I. Why Study Auctions?

ONE PARTY TO AN EXCHANGE often knows something relevant to the transaction that the other party does not know. Such asymmetries of information are pervasive in economic activity: for example, in the relationship between employer and employee when the employee's effort cannot be monitored perfectly; between the stockholders and the manager of a firm; between insurer and insured; between a regulated firm and the regulatory agency; between the supplier and the consumers of a public good; between a socialist firm and the central planner; or (as is the subject of this paper) between buyer and seller when the value of the item is uncertain.

Forty years ago, F. A. Hayek criticized theories that purport to describe the price system but start from the assumption that individuals have symmetric information:

The peculiar character of the problem of a rational economic order is determined precisely by the fact that the knowledge of the circumstances of which the economic order consists is distributed unequally among the individuals of which the system is composed. It is the task of the economic organization to coordinate the activities of these individuals so as to make the best use of the resources known to any of the members of society, for ends whose relative importance only these individuals know. Or, to put it briefly, it is a problem of the utilization of knowledge which is not given to anyone in its totality. (Hayek 1945, p. 519)

Hayek went on to argue that to omit imperfections of information is to ignore the price system's chief advantage. The "marvel" of the price system is its efficiency in communicating information "in a system in which the knowledge of the relevant facts is dispersed among many people" (p. 525). All that a buyer or seller

needs to know to make a rational decision is the vector of prices; he need not know the determinants of supply and demand that underlie the prices.

Hayek's critique of extant theories of the price system applies equally to the most thorough current theory, the Arrow-Debreu model, which assumes either that information is perfect or, what is essentially the same thing, that a full range of markets in contingent commodities exists. To paraphrase Hayek in modern terms, the constraints imposed by informational asymmetries can be as significant as any resource constraints.

Is the market as effective at transmitting information as Hayek argued? The much-cited examples due to George Akerlof (1970) illustrate that it need not be. The inability of buyers of used cars to observe the quality of any one car might cause the used-car market to cease to function. Similarly, the working of medical-insurance markets is hindered by the inability of an insurance company to observe completely an individual's current state of health. Should we conclude that Hayek's claims for the informational efficiencies of the price system are unduly optimistic? Resolution of this question requires some systematic analysis of how economic agents behave when information is dispersed.

Some of the most exciting of the recent advances in microeconomic theory have been in the modeling of strategic behavior under asymmetric information. One part of this broad research program is the theory of bidding mechanisms. The modeling of auctions provides a narrowly defined set of questions with which to begin a rigorous examination of the implications for the price system of informational asymmetries.

The study of auctions provides one way of approaching the question of price formation. As was pointed out in a well-known article by Kenneth Arrow (1959),

the standard economic model of many small buyers and sellers, taking as given the market price, is lacking in that it fails to explain where prices come from. Once the *deus ex machina* of the Walrasian auctioneer is discarded, who sets prices? Even in an otherwise perfectly competitive market, Arrow argued, during the process of price formation there is considerable uncertainty, resulting in each seller facing a downward-sloping demand curve or each buyer facing an upward-sloping supply curve. During the adjustment to the competitive equilibrium, "the market consists of a number of monopolists facing a number of monopsonists" (p. 47). Auction theory provides one explicit model of price making (although it is a restricted model of price formation in that it ignores the bargaining aspects of the process sketched by Arrow).

A less fundamental but more practical reason for studying auctions is that auctions are of considerable empirical significance: The value of goods exchanged each year by auction is huge. This fact in itself indicates that some theoretical study of auctions is warranted. Moreover, as will be seen, the theory of auctions is closer to applications than is most frontier mathematical economics.

The theoretical results in auction theory can explain the existence of certain trading institutions, and perhaps can even suggest improvements in the existing institutions: Thus auction theory has both positive and normative aspects. Many of the results address the question: What is, from the point of view of the monopolist, the best form of selling mechanism to use in any particular set of circumstances? Other questions that can be answered include the following. Should the seller impose a reserve price? If so, at what level? Can the seller design the auction so as to achieve price discrimination among the bidders? Is it ever in the seller's interest to require payment

from the unsuccessful bidders? If it is feasible to make payment depend not only on the bid but also on something correlated with the true value of the item (as is the effect of royalties, for example), should the seller do so? Should the seller release any information he has about the item's true value? What can the seller do to counter collusion among the bidders?

This paper surveys recent developments in the theory of bidding mechanisms and discusses the relevance of the theoretical results for auctions in practice.¹

In what follows, theorems will be stated in italics. For ease of exposition, not only will the proofs of the stated results be omitted, but also some of the required technical assumptions. For precise statements of assumptions, as well as proofs, see the cited papers.²

II. *The Types and Uses of Auctions*

What is an auction? An auction is a market institution with an explicit set of rules determining resource allocation and prices on the basis of bids from the market participants.

What kinds of goods are sold by auc-

tion? The list is long: Artwork, books, antiques, agricultural produce, mineral rights, United States Treasury bills, corporations, and gold are some current examples; wives and slaves are historical examples (Ralph Cassady 1967; Martin Shubik 1983). Why are auctions used rather than other selling devices such as posting a fixed price? According to Cassady (1967, p. 20): "One answer is, perhaps, that some products have no standard value. For example, the price of any catch of fish (at least of fish destined for the fresh fish market) depends on the demand and supply conditions at a specific moment of time, influenced possibly by prospective market developments. For manuscripts and antiques, too, prices must be remade for each transaction. For example, how can one discover the worth of an original copy of Lincoln's Gettysburg Address except by auction method?"

Sometimes there is a single buyer who wishes to purchase some item from one of a set of potential sellers. In this case, the auction is essentially the reverse of the usual one. Thus, a dictionary defines an *auction* as a sale in which the highest bidder wins. In the case of highest bid *auction* to describe the process of bidding to buy. For the sake of brevity, we shall usually discuss auctions as mechanisms for selling.³

Governments are the most prominent users of procurement auctions. In a modern market economy, the government's purchases from private firms typically account for about 10 percent of gross domestic product. For many government contracts, firms submit sealed bids; the contract is required by law to be awarded to the lowest qualified bidder. Sealed-bid tenders are sometimes also used by firms procuring inputs from other firms.

¹ Because there already are a survey (by Richard Engelbrecht-Wiggans 1980) and a bibliography (by Robert Stark and Michael Rothkopf 1979) of the earlier literature, this paper will focus on recent developments. The surveys by Paul Milgrom (1985, 1986) cover in more depth a narrower range of topics than the present survey. A brief survey of auction theory is given by Robert Wilson (1987).

² To the reader interested in pursuing auction theory more deeply than this nontechnical survey, we recommend beginning with the following papers. William Vickrey's remarkable 1961 paper, two decades ahead of its time, is still worth reading as an introduction to the analysis of auctions. Milgrom and Robert Weber (1982a) provide a very general framework for analyzing auctions and compare different auction forms and different seller policies. On the designing of optimal auctions, the central papers are Roger Myerson (1981) and John Riley and William Samuelson (1981); the former paper is more general, but the latter is more readable.

Novel uses of auctions include the auctioning of the rights to a natural monopoly as a substitute for regulating it (Harold Demsetz 1968; Oliver Williamson 1976); the auctioning of import quotas as a way of generating data on the extent of protection afforded by the quotas as well as capturing the rents for the government (M. Pickford 1985); the use of an auction mechanism for selecting a location for noxious facilities like prisons and hazardous-waste disposal plants (Howard Kunreuther and Paul Kleindorfer 1986); and the auctioning of airport time slots to competing airlines, proposed as an improvement over the existing slot quotas (S. J. Rassenti, V. L. Smith, and R. L. Bulfin 1982).

In a double auction, several buyers and several sellers submit bids simultaneously. The double auction is a stylized representation of organized exchanges such as stock exchanges and commodity markets.

What are the types of auctions that are in use? Four basic types are used when a unique item is to be bought or sold: the English auction (also called the oral, open, or ascending-bid auction); the Dutch (or descending-bid) auction; the first-price sealed-bid auction; and the second-price sealed-bid (or Vickrey) auction.

The English auction is the auction form most commonly used for the selling of goods. In the English auction, the price is successively raised until only one bidder remains. This can be done by having an auctioneer announce prices, or by having bidders call the bids themselves, or by having bids submitted electronically with the current best bid posted. (The word "auction" is derived from the Latin *augere*, which means "to increase.") The essential feature of the English auction is that, at any point in time, each bidder knows the level of the current best bid. Antiques and artwork, for

example, are often sold by English auction.

The Dutch auction is the converse of the English auction. The auctioneer calls an initial high price and then lowers the price until one bidder accepts the current price. The Dutch auction is used, for instance, for selling cut flowers in the Netherlands, fish in Israel, and tobacco in Canada.

With the first-price sealed-bid auction, potential buyers submit sealed bids and the highest bidder is awarded the item for the price he bid. The basic difference between the first-price sealed-bid auction and the English auction is that, with the English auction, bidders are able to observe their rival's bids and accordingly, if they choose, revise their own bids; with the sealed-bid auction, each bidder can submit only one bid. First-price sealed-bid auctions are used in the auctioning of mineral rights to U.S. government-owned land; they are also sometimes used in the sales of artwork and real estate. Of greater quantitative significance is the use, already noted, of sealed-bid tendering for government procurement contracts.

Under the second-price sealed-bid auction, bidders submit sealed bids having been told that the highest bidder wins the item but pays a price equal not to his own bid but to the second-highest bid (Vickrey 1961). While this auction has useful theoretical properties, it is seldom used in practice.

Many variations upon these four basic auction forms are used. For example, the seller sometimes imposes a reserve price, discarding all bids if they are too low (Cassady 1967, Ch. 16). Bidders may be allowed only a limited time for submitting bids (Shubik 1983, pp. 45-49). The auctioneer may charge bidders an entry fee for the right to participate (Kenneth French and Robert McCormick 1984). Payment may be made to depend

not only on bids but also on something correlated with the true value of the item, as is achieved by using royalties (James Ramsey 1980). In an English auction, the auctioneer sometimes sets a minimum acceptable increment to the highest existing bid (B. S. Yamey 1972). The seller might, instead of selling the item as a unit, offer for sale shares in the item (Wilson 1979).

Two broad questions are prompted by the foregoing description of the use of auctions. First, why is an auction used rather than some other selling (or buying) procedure? Second, given the diversity of types of auctions, what determines which particular auction form is chosen? In order to address these questions, some theoretical machinery is needed.

III. *The Ability to Make Commitments*

Auctions are often used by a monopolist (an individual selling a unique work of art, a government selling mineral rights, etc.) or a monopsonist (a government contracting out the production of a public good); they are sometimes also used in a competitive setting (in the selling of fish or agricultural produce, for example). This survey will follow the existing literature by considering the case of monopoly or monopsony: competition among the organizers of auctions will be little discussed.³ (However, there may be any number, large or small, of bidders.)

It is presumed therefore that there is monopoly (or monopsony) on one side of the market. While it is possible in auctions that there are very many bidders so that perfect competition prevails, more usually there are only a few bidders: There is oligopsony (or oligopoly) on the other side of the market. In classical economics, monopoly-oligopsony

problems were regarded as indeterminate: Any outcome between all of the gains from trade going to the buyer and all of the gains going to the seller was seen as possible.

Auction theory sidesteps such bargaining problems by presuming that, in a sense, the monopolist (or monopsonist) has all of the bargaining power. More precisely, it is assumed that the organizer of the auction has the ability to commit himself in advance to a set of policies. He binds himself in such a way that all of the bidders know that he cannot change his procedures after observing the bids, even though it might be in his interest *ex post* to renege. In other words, the organizer of the auction acts as the Stackelberg leader or first mover.

Commitment matters because even as simple an institution as the first-price sealed-bid auction leaves the seller with a temptation to renege. As will be seen, the bidders submit bids that are functions of their valuations of the item for sale. Given the assumptions 1, 2, and 3, about the seller, the seller is able to deduce the highest valuation of the item from the highest bid in the seller's collection. If he reneges on his promise to sell the item to the highest bidder, he can sell the item at a price no less than the highest bid and yet slightly less than the highest valuation, and it would be in the interest of the bidder who has that valuation to accept this offer. Of course, if the bidders knew in advance that the seller might renege on his announced policy, they would not bid as hypothesized.

The advantage of commitment is that procedures can be adopted that induce the bidders to bid in desirable ways. In *The Strategy of Conflict*, Thomas Schelling explained the advantages in general strategic situations of commitment power: "If the buyer can accept an irrevoc-

³ An important exception, the double auction, will be discussed in Section XI.

cable *commitment*, in a way that is unambiguously visible to the seller, he can squeeze the range of indeterminacy down to the point most favorable to him" (Schelling 1960, p. 24). This follows from "the paradox that the power to constrain an adversary may depend on the power to bind oneself" (p. 22).

There are many ways commitment can be achieved. For example, in the case of government contracting, the government official responsible for the decision is required to follow procedures that are explicitly and precisely set out in a publicly available book of rules. Also, a "potent means of commitment, and sometimes the only means, is the pledge of one's reputation" (Schelling 1960, p. 29). The cost of reneging on a current commitment might be the inability to commit oneself credibly in future transactions, and therefore the loss of future bargaining power.

Nevertheless, it does not follow from that fact that one party has the ability to make commitments that he can extract all of the gains from trade. What limits his bargaining ability is the asymmetry of information: The seller does not know any bidder's valuation of the item for sale. If the seller were able to observe bidders' valuations, he could offer the item to the bidder who values it the most at a price slightly below this bidder's valuation, threatening to refuse to sell it if this offer is rejected. Given that the seller has so committed himself, it is in the bidder's interest to accept this take-it-or-leave-it offer; the commitment makes the threat credible. When information is asymmetric, the seller's ability to extract surplus is more limited. The seller can exploit competition among the bidders to drive up the price; but usually the seller will not be able to drive the price up so far as to equal the valuation of the bidder who values the item the most,

because the seller does not know what this valuation is.⁴

In the next section, we discuss in detail the asymmetry of information about bidders' valuations.

IV. *The Nature of the Uncertainty*

Asymmetry of information is the crucial element of the auction problem. In the case of perfect information, the auction problem is easily solved, as just noted: Given the ability to make commitments, the organizer of the auction extracts all of the gains from trade. Indeed, the reason a monopolist chooses to sell by auction rather than, say, simply posting a price is that he does not know the bidders' valuations.⁵

How the bidders respond to uncertainty depends on their attitudes toward risk. Thus one aspect of any particular bidding situation that the modeler must take into account is the bidders' risk attitudes. (The risk attitudes of the seller may also matter; however, we shall assume throughout that the seller is risk neutral.)

Differences among the bidders' valuations of the item can arise for either of two distinct reasons. Which of these is relevant also affects how any particular bidding situation is to be modeled.

At one extreme, suppose that each bidder knows precisely how highly he values

⁴ Milgrom (1986) showed within a bargaining model that even if a seller is in a weak bargaining position (that is, if he does not have commitment ability), he might still choose to sell by auction. However, he then cannot use any of the strategic policies discussed in Sections VI through X to follow (such as imposing a reserve price). Hence we shall follow most of the existing literature by retaining the assumption of precommitment throughout this paper.

⁵ Note that informational asymmetries may or may not be removable in principle. On the one hand, for example, tastes are inherently unobservable. On the other hand, it might be feasible to monitor a firm's production costs, but simply too costly to do so. This distinction will be ignored in what follows.

the item; he has no doubt about the true value of the item to him. He does not know anyone else's valuation of the item; instead, he perceives any other bidder's valuation as a draw from some probability distribution. Similarly, he knows that the other bidders (and the seller) regard his own valuation as being drawn from some probability distribution. Differences among the bidders' evaluations reflect actual differences in their tastes. More precisely, for bidder i , $i = 1, \dots, n$, there is some probability distribution F_i from which he draws his valuation v_i . Only the bidder observes his own valuation v_i , but all the other bidders as well as the seller know the distribution F_i . Any one bidder's valuation is statistically independent from any other bidder's valuation. This is called the *independent-private-values model*. This model applies, for example, to an auction of an antique in which the bidders are consumers buying for their own use and not for resale. It also applies to government-contract bidding when each bidder knows what his own production cost will be if he wins the contract.

At the other extreme, consider the sale of an antique that is being bid for by dealers who intend to resell it, or the sale of mineral rights to a particular tract of land. Now the item being bid for has a single objective value, namely the amount the antique is worth on the market, or the amount of oil actually lying beneath the ground. However, no one knows this true value. The bidders, perhaps having access to different information, have different guesses about how much the item is objectively worth. If V is the unobserved true value, then the bidders' perceived values v_i , $i = 1, \dots, n$, are independent draws from some probability distribution $H(v_i|V)$. All agents know the distribution H . This is called the *common-value model*.

Suppose a bidder were somehow to learn another bidder's valuation. If the common-value model describes the situation, learning someone else's valuation provides useful information about the likely true value of the item: The bidder would probably change his own valuation in the light of this. In contrast, if the independent-private-values model describes the situation, the bidder knows his own mind; learning about another's valuation will not cause him to change his own valuation (although he might, for strategic reasons, change his bid).

The independent-private-values model and the common-value model should be interpreted as polar cases: Real-world auction situations are likely to contain aspects of both simultaneously. For example, the bidders at an antiques auction may be dealers guessing about the ultimate market value of the item; but these dealers may differ in their selling abilities, so that the ultimate market value depends on which dealer wins the bidding. In the *oil-field* contract, there are differences in the abilities and a commercial uncertainty.

A general model of auctions among the bidders includes as special cases both the common-value model and the independent-private-values model was developed by Milgrom and Weber (1982a). With n bidders, let x_i represent a private signal about the item's value observed by bidder i ; let $x = (x_1, \dots, x_n)$. Let $s = (s_1, \dots, s_m)$ be a vector of variables that measure the quality of the item for sale. The bidders cannot observe any of the components of s , however, some or all of the components of s may be observable by the seller. Now let the i th bidder's valuation of the item be $v_i(x, s)$. Thus any bidder's valuation may depend

not only upon his own signal, but also upon what he cannot observe: namely, the other bidders' private signals and the true quality of the item. This formulation reduces to the independent-private-values model when $m = 0$ and $v_i = x_i$ for all i ; and it reduces to the common-value model when $m = 1$ and $v_i = s_1$ for all i . The notion that bidders' valuations may to some extent be correlated is captured by the concept of *affiliation*: The vector of random variables (s, x) is affiliated if, roughly, some variables' being large makes it likely that the other variables are large: If variables are affiliated, then they are positively correlated.⁶

A further choice to be made by the modeler depends on the answer to the question: Are the bidders in some way recognizably different from each other? Is it appropriate to represent all bidders as drawing their valuations from the same probability distribution F , or should they be modeled as having different distributions F_i , $i = 1, \dots, n$? The former case will be described for the sake of brevity as the case of symmetric bidders and the latter as the case of asymmetric bidders. An example of an asymmetric bidding situation arises in government procurement when both domestic and foreign firms submit bids and, for reasons of comparative advantage, there are systematic cost differences between domestic and foreign firms.

⁶ More precisely, let z and z' represent a pair of $(m + n)$ vectors, and let $g(z)$ denote the joint probability density of the random variables z . Denote by $z \vee z'$ the component-wise maximum of z and z' , and by $z \wedge z'$ the component-wise minimum. Then the variables are defined to be affiliated if, for all z, z' ,

$$g(z \vee z') g(z \wedge z') \geq g(z) g(z').$$

Assuming differentiability of g , this is equivalent to

$$\frac{\partial^2}{\partial z_i \partial z_j} (\log g) \geq 0,$$

where $z_i, z_j, i \neq j$, are elements of z . See Milgrom and Weber (1982a) for more details.

Yet another modeling consideration arising from uncertainty is that the amount of payment can only be made contingent upon variables that are observable to both buyer and seller. In some circumstances, the only such variables are the bids. In other circumstances, however, there are other mutually observable variables. If these other variables are correlated with the item's true value, it might be in the seller's interest to make payment depend on these other variables as well as the bids. For example, in mineral-rights auctions, royalties make the payment depend upon the amount of oil ultimately extracted as well as the winning bid.

The auction model that is the easiest to analyze is based on the following four assumptions.

- A1. The bidders are risk neutral.
- A2. The independent-private-values assumption applies.
- A3. The bidders are symmetric.
- A4. Payment is a function of bids alone.

This model will be referred to as the benchmark model; it will be discussed in Sections V and VI. However, many real-world auctions fail to satisfy these assumptions: The consequences of relaxing each of these assumptions, one at a time, will be discussed in Sections VII through X.⁷

The results to follow will describe bidding equilibria. Each bidder knows the rules of the auction that the seller has chosen and committed himself to. Bidder i knows his own valuation v_i (true valuation in the independent-private-values model, perceived valuation in the common-values model). Each bidder is assumed to know the number of bidders, their risk attitudes, and the probability

⁷ Eric Maskin and Riley (1985) provided simple examples illustrating the effects of varying assumptions A1, A2, and A3.

distributions of valuations, and to know everyone else knows that he knows this, and so on.⁸ Based on what he knows, each bidder decides how high to bid. At a Bayes-Nash equilibrium, each bidder bids an amount that is some function of his own valuation, such that, given that everyone else chooses his bid in this way, no individual bidder could do better by bidding differently.

One result can be obtained immediately, regardless of which of the assumptions about risk attitudes and value correlations apply: *The Dutch auction yields the same outcome as the first-price sealed-bid auction* (Vickrey 1961). This is because the situation facing a bidder is exactly the same in each auction: The bidder must choose how high to bid without knowing the other bidders' decisions; if he wins, the price he pays equals his own bid. Because of this result, we do not need to analyze the Dutch auction in what follows.

V. The Benchmark Model: Comparing Auctions

Which of the four simple auction types (English, Dutch, sealed-bid first-price, sealed-bid second-price) should a seller choose? In what we are referring to as the benchmark model (defined by assumptions A1, A2, A3, and A4), this question has a surprising answer: It does not matter. Each of these auction forms yields on average the same revenue to the seller. At first glance, it may seem that this cannot be correct. For example, it might seem that receiving the highest bid, as in the first-price sealed-bid auction, must be better for the seller than

receiving the second-highest bid, as in the second-price sealed-bid auction. The answer, of course, is that the bidders act differently in different auction situations; in particular, they bid higher in a second-price auction than in a first-price auction.

Consider first the English auction. When will the bidders stop bidding up the price in the English auction? The second-last bidder will drop out of the bidding as soon as the price exceeds his own valuation of the item. Thus the highest-valuation individual wins the bidding and pays a price equal to the valuation of his last remaining rival. Usually this will be strictly below his own valuation of the item: The successful bidder earns some economic rent in spite of the monopoly power of the seller.⁹

Only the bidder knows how much rent he receives because only he knows his own valuation. From the point of view of an outside observer or the seller, how large on average is the winner's rent? To answer this question, suppose that the n bidders' valuations are, in dollar terms, v_{1n}, \dots, v_{nn} . Suppose v_{1n} is the highest valuation, v_{2n} is the second highest, etc. (that is, v_{1n} is the n th order statistic and v_{2n} is the $(n-1)$ th order statistic).

From the previous analysis, the winning bidder in the English auction pays a price equal to v_{2n} , and thus receives a rent of $v_{1n} - v_{2n}$. From the point of view of the seller, the expected rent of the winning bidder is the expected difference between the first order statistic, v_{1n} , and the second order statistic, v_{2n} . The following result

⁸ This is an instance of a game of incomplete information (John Harsanyi 1967, 1968). A strong assumption underlying the solution of any game of incomplete information is that the agents' subjective beliefs about the unknown parameters be mutually consistent; for expositions, see James Friedman (1986, pp. 48-56) and Myerson (1985).

⁹ According to conventional wisdom, the excitement generated by the open calling of bids in an English auction can cause bidders to bid too high. Such an assertion of irrational behavior should be treated with caution: It may be explained by the observation that, by the nature of the auction process, all but two of the bidders believe the selling price exceeds the item's value.

can be proven using the properties of order statistics:¹⁰ *The expected difference between the first order statistic and the second order statistic is the expected value of $[1 - F(v_{(1)})]/f(v_{(1)})$.* (This expectation is taken with respect to the distribution of the first order statistic $v_{(1)}$ because the winner has valuation $v_{(1)}$.)

The amount the seller is paid by the winning bidder is, by definition of economic rent, the buyer's valuation minus the buyer's rent. Thus, from the preceding argument, the payment expected by the seller in an English auction is the expected value of $J(v_{(1)})$, defined by

$$J(v_{(1)}) = v_{(1)} - \frac{(1 - F(v_{(1)}))}{f(v_{(1)})}. \quad (1)$$

(The seller does not know the value of $v_{(1)}$, but the expected value of $J(v_{(1)})$ is of course not a function of $v_{(1)}$.) It will be assumed throughout that the distribution F is such that J is a strictly increasing function: This simply means that the winning bidder's expected payment is increasing in his own valuation.¹¹

Consider now the second-price sealed-bid auction. In this, each bidder's equilibrium strategy is to submit a bid equal to his own valuation of the item. To see this, note that, because it is a second-price auction, the bidder's choice of bid determines only whether or not he wins; the amount he pays if he wins is beyond

his control. Suppose the bidder considers lowering his bid below his valuation. The only case in which this changes the outcome occurs when this lowering of his bid results in his bid now being lower than someone else's and as a result this bidder now does not receive the item. Because he would have earned non-negative rents if he won, lowering his bid below his valuation cannot make him better off. Conversely, suppose he considers raising his bid above his valuation. The only case in which this changes the outcome occurs when some other bidder has submitted a bid higher than the first bidder's valuation but lower than his new bid. Thus raising the bid causes this bidder to win, but he must pay more for the item than it is worth to him; raising his bid above his valuation cannot make him better off (Vickrey 1961). This argument shows that, like the English auction, the second-price auction results in a payment equal to the actual valuation of the bidder with the second-highest valuation (that is, the realization of the second order statistic). Thus the expected payment is the expected value of $J(v_{(1)})$.

The outcomes of the English and second-price auctions satisfy a strong criterion of equilibrium: They are *dominant equilibria*; that is, each bidder has a well-defined best bid regardless of how high he believes his rivals will bid. In a second-price auction, the dominant strategy is to bid true valuation; in an English auction, the dominant strategy is to remain in the bidding until the price reaches the bidder's own valuation. By contrast, a first-price sealed-bid auction does not have a dominant equilibrium. Instead, the equilibrium satisfies the weaker criterion of *Nash equilibrium*: Each bidder chooses his best bid given his guess (correct in equilibrium) of the decision rules being followed by the other bidders.

A Nash equilibrium for a first-price

¹⁰ A proof of this is given in McAfee and McMillan (1987f). For the case of bidders competing to sell an object rather than to buy (for example, bidding for contracts), $[1 - F(v)]/f(v)$ is replaced by $-G(c)/g(c)$, where c is a bidder's production cost and G and g are the probability distribution function and density function of bidders' costs.

¹¹ For J to be an increasing function, the distribution function F must be sufficiently concave. Also, J is increasing if and only if $[1 - F(v)]^{-1}$ is convex. When J is decreasing, it is in the seller's interest to choose the winner according to a random process; see Maskin and Riley (1980, 1983b), Myerson (1981), and Ralph Haywood (1984). For some examples of nonmonotonic $J(v)$, see Maskin and Riley (1984a, p. 183).

sealed-bid auction is found as follows. Consider the decision of bidder i , whose valuation is v_i . He conjectures that the other bidders are following a decision rule given by a bidding function B : that is, he predicts that any other bidder j will bid an amount $B(v_j)$ if his valuation is v_j (although bidder i does not know this valuation). Assume that B is a monotonically increasing function. What is bidder i 's best bid? If he bids an amount b_i and wins, he earns a surplus of $v_i - b_i$. The probability of winning with a bid b_i is the probability that all $n - 1$ of the other bidders have valuations v_j such that $B(v_j) < b_i$; this probability is $[F(B^{-1}(b_i))]^{n-1}$, where, as before, F represents the distribution of valuations. Bidder i chooses his bid b_i to maximize his expected surplus:

$$\pi_i = (v_i - b_i)[F(B^{-1}(b_i))]^{n-1}. \quad (2)$$

Thus he chooses b_i such that $\partial\pi_i/\partial b_i = 0$. By differentiating π_i with respect to v_i , we obtain $d\pi_i/dv_i = \partial\pi_i/\partial v_i + (\partial\pi_i/\partial b_i)(db_i/dv_i) = \partial\pi_i/\partial v_i$. (This is, of course, the Envelope Theorem.) Thus, by differentiating (2), an optimally chosen bid b_i must satisfy

$$\frac{d\pi_i}{dv_i} = \frac{\partial\pi_i}{\partial v_i} = [F(B^{-1}(b_i))]^{n-1}. \quad (3)$$

So far, we have examined bidder i 's best response to an arbitrary decision rule B being used by his rivals. Now impose the Nash (or rational-expectations) requirement: The rivals' use of the decision rule B must be consistent with the rivals' themselves acting rationally. Together with an assumption of symmetry (any two bidders with the same valuation will submit the same bid), this implies that bidder i 's optimal bid b_i , satisfying (3), must be the bid implied by the decision rule B —in other words, at a Nash equilibrium, $b_i = B(v_i)$. When we substitute this Nash condition into (3), we obtain an

equation defining bidder i 's expected surplus at a Nash equilibrium:

$$\frac{d\pi_i}{dv_i} = [F(v_i)]^{n-1}. \quad (4)$$

At a Nash equilibrium, all n bidders must be maximizing simultaneously, so that the condition (4) must hold for all bidders $i = 1, \dots, n$. We solve the differential equation (4) for π_i simply by integrating (using the boundary condition that if a bidder has the lowest possible valuation v_i then he earns zero surplus, implying $B(v_i) = v_i$). Then we use the definition of π_i (equation (2)) plus the Nash condition $b_i = B(v_i)$ to obtain each bidder's decision rule:

$$B(v_i) = v_i - \frac{\int_{v_i}^{\infty} [F(\xi)]^{n-1} d\xi}{[F(v_i)]^{n-1}}, \quad i = 1, \dots, n. \quad (5)$$

Note that this bidding function B is increasing, as was assumed. The second term on the right-hand side shows how much the bidder's bid exceeds his true value.

Note the two going arguments: bidder's best response rule that takes his rivals to be using B .

First, the condition from this optimization gave rise to equation (3). Second, we imposed the Nash requirement that the conjectured decision rules are themselves consistent with optimizing behavior by the other bidders. This turned equation (3) into equation (4), which we then solved to yield (5).¹²

For the special case where the distribution of valuations F is uniform and the lowest possible valuation is zero, substiti-

¹² On existence, symmetry, and uniqueness of bidding equilibria, see Maskin and Riley (1986) and Milgrom and Weber (1985).

tution into (5) shows that a bidder with value v in a first-price sealed-bid auction submits a bid of $B(v) = (n-1)v/n$; that is, he bids a fraction $(n-1)/n$ of his valuation.

The winning bidder is the individual with the highest valuation $v_{(1)}$. In choosing his bid, each bidder assumes his valuation is the highest, $v_{(1)}$, because this presumption is costless if incorrect as losers pay nothing. It can be shown that $B(v_{(1)})$ as in (5) is equal to the expected second-highest valuation conditional on the bidder's information, which is that his own valuation is $v_{(1)}$. (In other words, $B(v_{(1)})$ is the expected value of the second order statistic conditional on the first order statistic being $v_{(1)}$.) The bidder estimates how far below his own valuation the next highest valuation is on average, and then submits a bid that is this amount below his own valuation. Thus, from the point of view of the seller, who does not know the winner's valuation $v_{(1)}$, the expected price is the expected value of $B(v_{(1)})$, which in turn can be shown to be equal to the expected value of $J(v_{(1)})$, defined by (1). But, as we have seen already, the expected value of $J(v_{(1)})$ equals the expected price in an English or second-price auction. Hence, on average, the price reached in a first-price sealed-bid auction is the same as in an English or a second-price auction.

The foregoing argument establishes the Revenue-Equivalence Theorem: *For the benchmark model, each of the English auction, the Dutch auction, the first-price sealed-bid auction, and the second-price sealed-bid auction yields the same price on average* (Vickrey 1961; Armando Ortega-Reichert 1968; Charles Holt 1980; Milton Harris and Artur Raviv 1981a; Myerson 1981a; Riley and Samuelson 1981).

The Revenue-Equivalence Theorem does not imply that the outcomes of the four auction forms are always exactly the

same. In an English or second-price auction, the price exactly equals the valuation of the bidder with the second highest valuation, $v_{(2)}$. In a first-price sealed-bid or Dutch auction, the price is the expectation of the second-highest valuation conditional on the winning bidder's own valuation, $B(v_{(1)})$. Only by accident, for particular highest and second highest valuations $v_{(1)}$ and $v_{(2)}$, will these two prices be equal. They are, however, equal on average.

Although all four simple auctions yield the same price on average, there is a practical difference between, on the one hand, the English and the second-price auctions and, on the other hand, the first-price and Dutch auctions. In the former case, any bidder can easily decide how high to bid; in an English auction, he remains in the bidding until the price reaches his valuation; while in the second-price auction, he submits a sealed bid equal to his valuation. In the case of a Dutch or a first-price auction, the bidder bids some amount less than his true valuation: Exactly how much less depends upon the probability distribution of the other bidders' valuations and the number of competing bidders, as in equation (5). Finding the Nash-equilibrium bid in the first-price or Dutch auction is a nontrivial computational problem.

The Revenue-Equivalence Theorem is devoid of empirical predictions about which type of auction will be chosen by the seller in any particular set of circumstances. However, as will be seen, when assumptions that underlie the benchmark model are relaxed, particular auction forms emerge as being superior.¹³

¹³ The variance of revenue is lower in an English or second-price auction than in a first-price or Dutch auction (Vickrey 1961). Hence, if the seller were risk averse (instead of, as assumed throughout this paper, risk neutral), he would choose one of the former auction forms.

Despite the monopoly-oligopsony nature of the problem, the outcome of the auctions is Pareto efficient: The bidder with the highest valuation receives the item (provided J is strictly monotonic and the seller values the item less than any bidder). However, as will be seen, if the monopolist is given more instruments, he will in general distort the outcome away from efficiency.

What is the effect of increasing the amount of competition among the bidders? The more bidders there are, the higher on average is the valuation of the second-highest-valuation bidder. Hence: *Increasing the number of bidders increases the revenue on average of the seller* (Holt 1979; Harris and Raviv 1981a). In particular, from equation (2), if $n = 1$, $B(v_i) = v_i$: Without the pressure of competition, the sole bidder will bid the lowest possible valuation, v_L . As the number of bidders increases, the bids, as given by (5), increase.¹¹ Provided the number of bidders is finite, the winning bidder pays a price less than his own valuation of the item, so that he earns positive economic rent. But if there is perfect competition among the bidders,¹² then all of the gains from trade go to the seller. *As the number of bidders approaches infinity, the price tends to the highest possible valuation* (Holt 1979). This is because, as the number of bidders increases, the second-highest valuation approaches the highest possible valuation.

¹¹ However, if the bidders must incur a cost in preparing their bids, or if the seller must incur a cost in checking the credentials of the bidders, it need not be the case that expected net price rises with the number of bidders, see respectively Samuelson (1985) and McAfee and McMillan (1987f).

¹² Here and elsewhere we use the term *perfect competition* to describe the case of unboundedly many bidders. Although in practice the number of bidders is of course always finite, the infinite-bidders case can be taken to represent a situation in which there are so many bidders that adding one extra bidder would not noticeably lower the probability of any particular bidder's having the highest valuation.

In addition to the number of bidders, another determinant of the strength of the bidding competition is the variance of the distribution of valuations. The larger is this variance, the larger on average is the difference between the highest valuation and the second highest valuation, and so the larger is the economic rent to the winning bidder. However, an increase in the variance of a distribution, holding the mean constant, usually increases the second highest valuation as well. Hence, for particular distributions of valuations, such as normal and uniform, one can show that an increase in the variance of valuations increases both the average revenue of the seller and the rents of the successful bidders (McAfee and McMillan 1986).

The essence of the auction problem is the unobservability of bidders' valuations. Suppose the seller wishes to learn the bidders' valuations. Can he design the auction so as to induce the bidders directly to reveal their preferences? The following result was independently obtained above: In the auction, each bidder's bid is his valuation (Vickrey 1961). This is the benchmark mechanism for this information problem. It maximizes the revenue of the seller in a second-price auction, and it maximizes the revenue from any other type of auction. The seller cannot exploit this information, because he obtains it only after having committed himself to the second-price mechanism.

VI. Optimal Auctions

The Revenue-Equivalence Theorem compares the expected revenues accruing from each of the commonly used auc-

¹³ This is closely related to the idea underlying the Groves mechanism for inducing revelation of preferences for public goods (Theodore Groves and John Ledyard 1977).

tion forms. Given that the monopolist has the power to choose any selling mechanism, a more fundamental question to ask is, What is the best of all possible selling mechanisms from the point of view of the seller?

The tool used to address this question is the Revelation Principle. Use the word *mechanism* to describe any process that takes as inputs the bids and produces as its output the decision as to which bidder receives the item and how much any of the bidders will be required to pay. Each of the auction forms so far described is an example of a mechanism. In a *direct* mechanism, each bidder is asked simply to report his valuation of the item. A mechanism is *incentive compatible* if the mechanism is structured such that each bidder finds it in his interest to report his valuation honestly. Assume the absence of collusion among the bidders. The Revelation Principle asserts the following: *For any mechanism, there is a direct, incentive-compatible mechanism with the same outcome.* Thus, in particular, the optimal mechanism can be mimicked by some direct, incentive-compatible mechanism. (For useful expositions of the Revelation Principle, see Harris and Robert Townsend 1985 and Myerson 1985.)

To exemplify the Revelation Principle, consider the direct, incentive-compatible mechanism that is equivalent to the first-price sealed-bid auction. In the first-price sealed-bid auction, the bidder with the highest valuation v wins and pays the amount of his bid, which was shown in the last section to be $B(v)$. Consider now a direct mechanism, in which the seller simply asks the bidders to report to him their valuations. Usually it will be in the bidders' interests to lie. Suppose, however, the seller announces that the mechanism is the following: The bidder who reports the highest valuation, \hat{v} , will win the item and be asked to pay $B(\hat{v})$. This particular direct mechanism is equivalent

to the first-price sealed-bid auction. Because the bidders in the first-price sealed-bid auction are optimizing when they submit bids of $B(v)$, it must be optimal for them to report their valuations honestly, that is, $\hat{v} = v$, in this direct mechanism. The mechanism is incentive compatible. Also, as shown earlier, the second-price auction is incentive compatible.

The Revelation Principle achieves honest revelation in the direct mechanism by designing the payoff structure in such a way that it is in the bidders' interests to be honest. In effect, the computations that go on within the mind of any bidder in the nondirect mechanism are shifted to become part of the mechanism in the direct mechanism. Instead of having the bidder compute his own bid in the first-price sealed-bid mechanism, all of the computations are done inside the mechanism in the direct mechanism.

The significance of the Revelation Principle is that it shows that the modeler can limit his search for the optimal mechanism to the class of direct, incentive-compatible mechanisms. The number of possible selling procedures is huge; hence it is useful to be able to restrict attention to one relatively simple class of mechanisms. The Revelation Principle is purely a theoretical technique; few, if any, resource-allocation procedures in practical use are direct, incentive-compatible mechanisms. But using the Revelation Principle does facilitate solving for that resource-allocation mechanism that is optimal subject to the constraints imposed by the asymmetry of information. The optimal direct mechanism is found as the solution to a mathematical programming problem involving two kinds of constraints: first, incentive-compatibility or self-selection constraints, which state that the bidders cannot gain by misrepresenting their valuations; and second, individual-rationality or free-exit constraints, which state that the bidders

ould not be better off if they refused to participate.

Returning to the auction model stated in the last section, suppose that the seller himself attaches a value of v_0 to the item being offered for sale. (Because v_0 may be zero, we are not requiring that the seller necessarily has some use for the item.) Continue to assume that the J function defined in equation (1) is increasing. Applying the Revelation Principle can be shown to yield the following result: *For the benchmark model, the auction that maximizes the expected price has the following characteristics: (a) If $(v_i) < v_0$ for all bidders' valuations v_i , then the seller refuses to sell the item; b) otherwise he offers it to the bidder whose valuation v is highest at a price equal to $B(v)$* (Laffont and Maskin 1980; Harris and Raviv 1981a; Milgrom 1985; Myerson 1981; Riley and Samuelson 1981; Engelbrecht-Wiggans 1986; McAfee and McMillan 1987a).

The first part of this result says that the seller optimally sets a reserve price, not selling the item if all bidders' valuations are too low. Notice that this policy introduces the possibility of an inefficient outcome. Because $J(v) < r$, it is possible that the seller keeps the item despite the presence of some bidder with a valuation that is greater than the seller's own valuation. Like the elementary-textbook monopolist, the seller finds it in his interest to distort the outcome away from Pareto optimality.

This description of the optimal auction is in terms of a direct, incentive-compatible auction, with the seller asking the bidders how much they value the item and the bidders responding by honestly reporting their valuations to the seller. To convert back to a more familiar looking mechanism, consider an English auction. As was shown in the last section, the seller expects to earn $J(r)$ from a winner with value v . Thus, if the reserve price is not binding, part (b) of the opti-

mal-auction result shows that the optimal auction is equivalent to the English auction. The English-auction equivalent of the reserve price (part (a) of the result) is that the seller sets a reserve price r which strictly exceeds his own valuation v_0 (namely, $r = J^{-1}(v_0) > v_0$).

To understand why the reserve price increases the average selling price, suppose there is at least one bidder whose valuation v exceeds the seller's valuation. The reserve price is binding in the English auction only if the second-last bidder drops out before the reserve price is reached. The optimal level of the reserve price is determined by a trade-off. The disadvantage of setting a reserve price, already noted, is that it is possible that the remaining bidder has a valuation that lies between the seller's valuation and the reserve price, $v_0 < v < r = J^{-1}(v_0)$. In this case, the monopolist loses the sale even though the bidder would have been willing to pay more than the good is worth to the seller. On the other hand, the advantage of the reserve price is that it is possible that the bidder's valuation exceeds the reserve price.

If the bidder's valuation exceeds the reserve price, the bidder pays at least the reserve price. If the bidder's valuation is less than the reserve price, the bidder pays nothing.

The case of a simple example of a monopolist who sets a reserve price r and never pays more than r , as he faces no competition. The buyer will pay r if his value of the good exceeds r , which occurs with probability $1 - F(r)$. Thus, the seller expects to earn:

$$\pi(r) = r[1 - F(r)] + v_0 F(r). \quad (6)$$

Maximization of π with respect to r yields $r_0 = J(r)$ and the second order condition that J is nondecreasing.¹⁷

¹⁷ A useful way of preserving the second-order-stochastic intuition provided earlier is to note that the

Note the simplicity of the formula for the optimal reserve price; in particular, it is independent of the number of bidders. The reason for this is that the seller imposes the reserve price in order to capture some of the informational rents that would otherwise go to the winning bidder; and these rents are equal to $[1 - F(v)]/f(v)$, which is independent of the number of bidders. For the case of a uniform distribution of valuations, the optimal reserve price is especially easy to compute: It is the average of the seller's own valuation and the highest possible valuation that a bidder could have.

Because, as was shown in the last section, the four common auction forms are essentially equivalent in the benchmark model, we can conclude as follows: *For the benchmark model, any of the English, Dutch, first-price sealed-bid, and second-price sealed-bid auctions is the optimal selling mechanism provided it is supplemented by the optimally set reserve price. The optimal level of the reserve price for any of these auctions is $J^{-1}(v_0)$ (Harris and Raviv 1981a; Myerson 1981; Riley and Samuelson 1981).*

This is a powerful result. No restriction has been placed on the types of policies the seller could use. The seller could, for example, have several rounds of bidding, or charge bidders entry fees, or subsidize bidders, or require losing bidders to pay an amount related to their bids, or allow only a limited time for the submission of bids. But none of these more complicated strategies would increase the expected price: The simple auction forms are the best out of the huge set of possible selling mechanisms.

This completes the analysis of the benchmark model. In the next four sections we examine the effects of changing

the assumptions upon which the benchmark model is based.

VII. Asymmetric Bidders: Price Discrimination

Instead of assuming that all bidders appear the same to the seller and to each other (assumption A3), suppose that the bidders fall into one of two recognizably different classes. (In this section we retain the other assumptions A1, A2, and A4.) Thus, instead of there being a single distribution F from which the bidders draw their valuations, there are two distributions, F_1 and F_2 ; bidders of type i draw their valuations independently from the distribution F_i (with density function f_i). For example, bidders at an antiques auction might be classifiable as either dealers or collectors, with the average demand price among dealers differing from that among collectors, or bidders for a government contract might be divided into domestic and foreign firms, with systematic production-cost differences.¹⁸

The English auction in this asymmetric case operates much as in the benchmark model: The bids rise until the price reaches the second-highest valuation. In particular, the highest-valuation bidder wins, so that the outcome is efficient.

When bidders are asymmetric, the first-price sealed-bid auction yields a different price from the English auction: Revenue equivalence breaks down. While it remains the case that, within a class, higher-valuation individuals bid higher, this is in general not the case across classes. Bidders from different classes perceive themselves to be facing different degrees of bidding competition. If n_i represents the number of bidders

seller, setting his reserve price optimally, earns the second order statistic of $[J^{-1}(v_0), v_1, \dots, v_n]$, where $J^{-1}(v_0)$ is the valuation (if held by a bidder) that produces a payment to the seller of v_0 .

¹⁸ The results to follow extend to the case of m classes of bidders for any $m \leq n$, where n is the number of bidders. The discussion here has two classes of bidders solely for ease of exposition.

of type i , then a type 1 bidder faces $n_1 - 1$ type 1 bidders and n_2 type 2 bidders, whereas a type 2 bidder faces n_1 type 1 bidders and $n_2 - 1$ type 2 bidders. Thus, in a first-price sealed-bid auction, a type 1 individual's bidding function, computed analogously to equation (5) above, differs from a type 2 individual's bidding function. A type 1 bidder's estimate of the gap between his own valuation and the second-highest valuation differs from that of a type 2 bidder with the same valuation.

Hence the first-price sealed-bid auction in general yields a different price from the English auction when bidders are asymmetric. Examples have been constructed (by Vickrey 1961; J. H. Griesmer, R. E. Levitan and Shubik 1967; and Maskin and Riley 1983a, 1985) which show that the English auction's expected price can be either higher or lower than the first-price sealed-bid auction's expected price.

Because the bidder with the highest valuation does not necessarily win when the bidders are asymmetric, even with no reserve price, the first-price sealed-bid auction can, unlike the English auction, yield an inefficient outcome.

Neither of these simple auctions is optimal when the bidders are asymmetric. Analogous to the function J of Section I, define functions $J_k(v_i^k)$, where v_i^k represents the valuation of a bidder of type k , by

$$J_k(v_i^k) = v_i^k - \frac{[1 - F_k(v_i^k)]}{f_k(v_i^k)}, \quad k = 1, 2. \quad (7)$$

The following theorem is due to Myerson (1981): *In the auction that maximizes the expected selling price, the seller awards the item to the individual with the highest value of $J_k(v_i^k)$.* (In addition, the seller sets a different reserve price for each type of bidder, computed in exactly the same way as in Section VI.)

This theorem shows that, when bidders are asymmetric, the optimal auction is discriminatory, in the sense that there is a possibility that one bidder wins despite another bidder's having a higher valuation. This is because asymmetry means that $F_1 \neq F_2$ so that $J_1(v) \neq J_2(v)$. Thus it is possible that, say, $J_1(v_{(1)}^1) > J_2(v_{(1)}^2)$ even though $v_{(1)}^2 > v_{(1)}^1$, so that the winner, with the highest $J_k(v_i^k)$, is not necessarily the bidder who values the item the most. This is analogous to second-degree price discrimination in the elementary-textbook monopoly model in that it involves discriminating across bidders with different demands.

Which type of bidder receives preferential treatment? The answer depends upon the relative shapes of the valuation distribution functions F_1 and F_2 . However, one special case is useful in aiding understanding. *If the distributions of valuations are identical except for their means, then the class of bidders with the lower average valuation are favored in the optimal auction.*¹³

(Maskin and Riley 1987d). The intuition is that, by awarding the item to the low-valuation bidder, the seller raises the expected value of the item to someone other than the bidder who values it the most. This policy, by creating a relatively high probability of the item being awarded to someone other than the bidder who values it the most, creates a "winner's curse" which forces the bidder in the low-valuation class to bid higher than they otherwise would, driving up the price on average.¹⁴

Because the seller's optimal policy leaves a positive probability of the item being awarded to someone other than the bidder who values it the most, the policy is not Pareto efficient. For this policy to be workable, it must be the case, as for

¹³The optimal reserve-price policy described in the previous section can now be seen to be a special instance of this optimal discriminatory policy, with the seller discriminating between himself, as an implicit bidder, and the actual bidders.

the price-discriminating monopolist of elementary economic theory, either that the seller can prevent the successful bidder from reselling the item to some other bidder or that the item being sold is inherently nontransferable. Arbitrage among the bidders, if it were possible, would sabotage any discriminatory selling scheme.

An important application of these results is to government procurement. Governments often favor local suppliers over foreign suppliers. For example, under buy-American legislation, the United States federal government offers a 6 percent price preference for domestic content: If a local firm's bid is no more than 6 percent higher than the lowest foreign bid, the local bid will be accepted. The results just cited show that there are circumstances in which a policy of this type can be optimal: If the foreign firms have on average lower production costs because they have a comparative advantage, then the government minimizes its expected payment by favoring the local firms. Of course, these considerations do not explain the existing policies: In an industry in which the local firms have a comparative advantage, minimizing the government's expected payment requires that the foreign firms be favored, which seems unlikely to occur. Undoubtedly the existing government-procurement preferences were introduced for political reasons and not to increase the amount of bidding competition; however, this analysis shows that it is not appropriate to evaluate such policies using as a benchmark the absence of preferences: An ostensibly nondiscriminatory sealed-bid auction results in ad hoc discrimination when the bidders are asymmetric.

Another instance of a price-discriminating auction occurs when a buyer has a sequence of projects: For example, a government offers a research-and-devel-

opment contract followed by a production contract. The winner of the first auction reveals, by his winning, that he has a cost advantage. Thus *the buyer should discriminate against the incumbent in the second auction* (Richard Luton and McAfee 1986).

VIII. *Royalties and Incentive Payments*

In the last section we examined an asymmetric-information equivalent of the elementary textbook's concept of price discrimination by market segmentation. Another form of price discrimination discussed in elementary textbooks is multi-part pricing; in this section we examine an asymmetric-information analogue of multi-part pricing.

It has been assumed so far that the seller is able to make payment depend upon only the bids. The bids give the seller some information about how highly the bidders value the item for sale. In many circumstances, however, the seller has, or can obtain, additional information about valuations. In this section, we maintain the assumptions A1, A2, and A3 but relax the assumption A4 that payment can be a function only of bids. We show that it is in the seller's interest to condition the bidders' payments on any additional available information about the winner's valuation. (Of course, if the seller has perfect information on the bidders' valuations, the auction problem is trivial.)

For example, in an auction of oil rights to government-owned land, the government can observe, ex post, how much oil is actually extracted; this provides additional information on the true value of the tract. The payment by the successful bidder equals the amount he bids plus a royalty based on the amount of oil extracted (Ramsey 1980). Publishing rights for books are sometimes auctioned, with payment to the author depending both

on the bid and, via a royalty, on the book's ultimate sales (John Dessauer 1981). For weapons procurement, the U.S. Department of Defense increasingly often uses incentive contracts, which make payment to the contractor depend not only on his bid but also on the production costs he actually incurs (Peter deMayo 1983; McAfee and McMillan 1987e). Incentive contracts are also used in the private sector when a firm procures inputs from another firm.

All of these examples have the following properties. The seller observes ex post some variable \hat{v} that is an estimate of the winning bidder's true valuation v . The payment p to the seller by the winning bidder is a linear function:

$$p = b + r\hat{v}, \quad (8)$$

where b is the bid and r is the royalty rate. (In the case of contract bidding, the payment to the successful bidder is $p = b + \alpha(c - b)$, where c is realized production cost and α , the sharing parameter, is the fraction of any cost overrun or under-run ($c - b$) that the winning bidder is responsible for. In the extreme case of $\alpha = 1$, the contract is cost-plus; with $\alpha = 0$, the contract is fixed-price.)

Three bidding mechanisms can be used with payment functions of the form (8). First, the seller can set the royalty rate and call for bids b . Second, the seller can set the fixed payment b and call for bids on the royalty rate r . Third, the seller can call for bids on both the fixed payment b and the royalty rate r simultaneously. Both the first mechanism and the second mechanism are used by the U.S. government in auctioning offshore oil tracts, with the first being the more commonly used (Walter Mead, Asbjorn Moseidjord, and Philip Sorensen 1984). In what follows, we shall discuss bidding mechanisms of the first type. (See Robert Hansen 1985a, Douglas Reece 1979, and Riley 1986 for analyses of bidding mecha-

nisms of the second type, and Samuelson 1983, 1986b for an analysis of bidding mechanisms of the third type.)

What is the reason for using royalties? *If the distribution of the observed variable \hat{v} is exogenous, the seller's expected revenue is an increasing function of the royalty rate* (McAfee and McMillan 1986, Riley 1986). The intuition behind this is that an increase in the royalty rate lessens the significance for the bidding of inherent differences in the bidders' valuation. As was noted earlier (in Section V), a decrease in the variance of the bidders' valuations generates more aggressive bidding and therefore a higher expected revenue for the seller. An increase in the royalty rate has a similar effect on the bidding to a decrease in the variance of valuations. The royalty serves to transfer rents from the successful bidder to the seller.

If expected revenue monotonically increases with the royalty rate, why are royalties not always set at 100 percent? One answer is that the distribution of \hat{v} is not exogenous to the seller's actions after the bidding. The seller may wish to affect the selection of the winner to avoid a moral-hazard problem. For example, the auctioneer of the auction for oil extraction is the winning bidder. This is the case in each of the three examples above. The amount of oil extracted from a tract is decided by the extractor. Eventually, diminishing returns set in, and the higher the royalty rate, the less oil will be extracted, that is, the lower \hat{v} will be. The sales of a book vary with the amount of publicity the publisher chooses to give it. The production costs incurred by a contractor in part depend on how much effort he makes to hold costs down. Such moral-hazard considerations must be weighed against the effects on bidding competition in the choice of what royalty rate to set.

When there is moral hazard, the optimal royalty is determined by trade-off. Increasing the royalty rate serves to increase the bidding competition and raise the bids, as already argued. But an increase in the royalty rate reduces the return to the winning bidder on his own actions after the auction: The royalty has the effect of transferring part of the benefit of these actions to the seller. Thus the higher the royalty rate, the less the ex post effort made by the winning bidder; this tends to lower the seller's expected revenue. *With moral hazard, the optimal royalty r is less than 100 percent* (Engelbrecht-Wiggans 1985; Laffont and Jean Tirole 1985; McAfee and McMillan 1986, 1987c; Michael Riordan and David Sappington 1987. Thus moral hazard results in the seller not making payment fully dependent on his ex post information. The royalty r is zero if and only if there are infinitely many bidders. This is because, when there are enough bidders that perfect competition prevails, there is no need to use royalties to stimulate bidding competition. Then the contract is used only to address moral hazard; and moral hazard is most effectively addressed when the successful bidder keeps all of any marginal increases in the item's value, that is, when $r = 0$ in (8).

When the simplicity of the linear payment function (8) means that it is commonly used in practice, in general when there is moral hazard a nonlinear payment function would yield a higher expected revenue for the seller. *With moral hazard, the optimal contract is linear in observed valuation \bar{v} but nonlinear in the winning firm's bid b* (Laffont and Tirole 1985; McAfee and McMillan 1987c).

Another reason for not setting the royalty rate at 100 percent comes from the seller's inability to observe bidders' valuation ex ante. For simplicity, assume away moral hazard by assuming perfect ex post observability, so that $\bar{v} = v$. The

successful bidder's rent is the difference between his valuation v and his payment (8). When the royalty r is 100 percent, this difference is the constant b ; thus the successful bidder's rent is independent of his valuation. This breaks the link between valuation and bids, so that now the highest bidder is not necessarily the individual who values the item the most. The bids fail to reveal relative valuations (McAfee and McMillan 1986; Samuelson 1986a).

Making payments conditional on ex post observations of valuations serves not only to stimulate bidding competition; it also shifts risk from the bidders to the seller. If the bidders are risk averse while the seller is risk neutral, then some amount of risk shifting is mutually beneficial. *The more risk averse are the bidders relative to the seller, the higher is the optimal royalty rate* (Hayne Leland 1978; McAfee and McMillan 1986; Samuelson 1983, 1986b).

IX. Risk-Averse Bidders

Auctions generally confront bidders with risk. Typically, a bidder obtains nothing and pays nothing if he loses, and earns positive rents if he wins. Thus if the bidders are risk averse, the extent of their aversion to risk will influence their bidding behavior. In this section we relax assumption A1 and suppose the bidders have von Neumann-Morgenstern utility functions, while maintaining the other assumptions of the benchmark model. We continue to assume that the seller is risk neutral and therefore wishes to maximize his expected earnings.

The seller can do at least as well as in the risk-neutral-bidders case, for if he sells the good using an English auction it remains the case that buyers will remain in the bidding so long as the price is less than their value. Thus, the seller can expect to earn at least as much when

the buyers are risk averse as when they are not. Indeed, the seller can do strictly better, for *with risk-averse bidders, the first-price sealed-bid auction produces a larger expected revenue than the English or second-price auction* (Harris and Raviv 1981a; Holt 1980; Maskin and Riley 1980; Riley and Samuelson 1981). The intuition behind this result is seen by examining the problem facing an agent in the first-price sealed-bid auction. If he loses, he gets nothing, while if he wins, he obtains a positive profit. Thus he is facing risk. By marginally increasing his bid, he lowers his profit if he wins, but increases the probability of this event. By smoothing his utility, he increases his expected utility (up to a point); but this also increases his payment to the seller. Thus the bidders' risk aversion works to the seller's advantage.

The first-price sealed-bid auction is not the optimal auction, however; it fails to maximize the expected revenue of the seller when the bidders are risk averse. Because the seller is risk neutral, there may be gains from trade in risk. The seller is not fully exploiting his comparative advantage in risk bearing when he uses a first-price sealed-bid auction. For example, if the seller makes low bids risky, he might encourage higher bids.

There are two ways in which the seller can impose risk on the bidders: first, the risk of losing; and second, random payments. It can be shown, however, that it is not in the seller's interest to use the second of these instruments. *The seller will not make losing bidders' payments random* (Maskin and Riley 1984b; Steven Matthews 1983). The reason is straightforward. Instead of requiring a risky payment from a loser, the seller could require the payment's certainty equivalent, leaving the probability of winning and the payment upon winning unchanged. Then the payoff to the bidder is unchanged in utility terms. However,

the certainty-equivalent payment exceeds the expected risky payment by the risk premium, a positive number. Thus the seller gains the risk premium; he is better off not making the losers' payments random. Should the seller make the winner's payment random? The foregoing argument does not in general apply to the payment made by the winner, because winning is like receiving an increase in income, which will in general change the degree of risk aversion. The argument does, however, carry over when a bidder's risk aversion does not vary with his income: *If the bidders have constant absolute risk aversion, the payment required of the winning bidder is not random* (Matthews 1983).

The optimal auction is very complicated, in marked contrast to the simplicity of the optimal auction in the case of risk-neutral bidders. However, some broad features can be described. *The optimal auction with risk-averse bidders involves subsidizing high bidders, subsidizing and penalizing low bidders*

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John Moore 19

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insurance only for the highest possible

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the subsidies to some of the losers. Fi-

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aversion, payment by the winner and the

probability of winning are nondecreasing

functions of the winner's valuation of the

item (Matthews 1983). The fact that the

bidders' certainty-equivalent payment

decreases as valuation rises provides high

bidders with more insurance than low

bidders. Thus the seller rewards high

bids by means of insurance, which is costless for him to provide because of his risk neutrality. Because the seller does not offer full insurance, the bidders prefer winning to losing; moreover, an increase in bid does not decrease the bidder's probability of winning. The seller compensates for his payments to high, losing bidders by requiring a large payment from the winning bidder.

Because the optimal auction with risk averse bidders is so complicated, requiring payments from some losing bidders and subsidies of others, it is unlikely to arise in practice. However, if the risk aversion is not very strong, the optimal auction is approximated by a sealed-bid auction with a bidding fee that is a decreasing function of the bid (Matthews 1983). Bidding fees are not uncommon in contract bidding, although they do not depend on the bid. However, insofar as bidders with high but losing bids can be rewarded on other contracts, perhaps with favorable treatment, it is possible that the optimal auction could be approximated in practice.

Consider now another instrument that becomes useful to the seller when the bidders are risk averse. A standard assumption in auction theory is that each bidder knows exactly how many other bidders he is competing with. When bidders are risk averse, this is a nontrivial assumption, for the bidders behave differently when they have this knowledge than when they do not. This is a consequence of the fact that the seller rationally has a different expectation about the number of bidders than does any of the bidders, because the bidder conditions his probabilities on his knowledge that he himself is one of the bidders; it follows that, with identical priors, any bidder always expects there to be more bidders than the seller. *Under constant or decreasing absolute risk aversion, in a first-price sealed-bid auction the expected sell-*

ing price is strictly higher when the bidders do not know how many other bidders there are than when they do know this (Matthews 1987; McAfee and McMillan 1987a). (Here expectations are taken over the number of bidders as well as their valuations.) It follows from this result that, if the seller can somehow organize the auction in such a way as to leave each bidder ignorant about the number of bidders, then he should do so. In some cases of government-contract bidding, the government agency has a policy of concealing information about how many firms it has invited to submit bids. The foregoing result provides some justification for such a policy: Concealing the number of bidders has the effect of making the bidding more competitive.²⁰

X. *Correlated Values*

In many auctions, the uncertainty about each bidder's valuation of the item being sold does not result from inherent differences in the bidders' tastes, as has so far been assumed. Instead, it arises because each bidder, having access to different information, has a different estimate of the value of the item. In this section, we maintain assumptions A1, A3, and A4. We relax assumption A2, the independent-private-values assumption, and allow interactions among the different bidders' valuations.

Consider first the extreme case of the common-value auction, in which the bidders guess about the unique true value of the item. When the item being bid for has a common value, the phenomenon dramatically named the "winner's curse" can arise. Each bidder in sealed-bid auction makes his own estimate of

²⁰ The effects of bidders' having different degrees of risk aversion were investigated by James Cox, Vernon Smith, and James Walker (1982), who derived equilibrium bidding functions for some particular auctions for the case of constant relative risk aversion.

the true value of the item. The bidder who wins is the bidder who makes the highest estimate. Thus there is a sense in which winning conveys bad news to the winner, because it means that everyone else estimated the item's value to be less. The winner's curse has been noted in the book-publishing industry. One observer, commenting on the high prices fetched in the auctioning of manuscripts among publishers, said: "The problem is, simply, that most of the auctioned books are not earning their advances. In fact, very often such books have turned out to be dismal failures whose value was more perceived than real" (Dessauer 1981). The winner's curse has also been claimed to exist in auctions of offshore oil rights (E. C. Capen, R. V. Clapp, and W. M. Campbell 1971), in the market for baseball players (James Cassing and Richard Douglas 1980), and in the bidding for contracts that have a common element of technological uncertainty (James Quirk and Katsuaki Terasawa 1984).

Statements about the winner's curse such as that quoted come close to asserting that bidders are repeatedly surprised by the outcomes of auctions, which would violate basic notions of rationality. (James Cox and Mark Isaac (1984) pursued this straw man.) A more reasonable interpretation of the winner's curse is that sophisticated bidders, when deciding their bidding strategies, take into account the fact that winning reveals to the winner that his estimate of the item's value was the highest estimate; as a result, they bid more cautiously than if they adopted naive strategies. The basis for such sophisticated bidding strategies is the following result in probability theory. Suppose the i th bidder's information about the item's true value v can be represented by a number x_i , such that a bigger value of x_i implies a bigger true value v . Then

$$E(v|x_i) \geq E(v|x_i, x_i > x_j \text{ for all } j \neq i) \quad (9)$$

(Milgrom 1979b, pp. 60–63; 1981a). The left side of this inequality shows the bidder's expectation about the item's value before the bidding; the right side shows his expectation after he knows that he has won. Thus the mere knowledge that he has won will cause a naive bidder to revise downward his estimate of the item's true worth.

The rational bidder in a common-value sealed-bid auction avoids becoming a victim of the winner's curse by presuming that his own estimate of the item's value is higher than any other bidder's; that is, by presuming that he is going to be the winner (James Smith 1981). He then sets his bid equal to what he estimates to be the second-highest perceived valuation given that all the other bidders are making the same presumption. There is no cost to making this presumption when it is wrong, because losing bidders pay nothing (Milgrom and Weber 1982a).

It is often pointed out that the process of price formation in competitive bidding is one of the features of the process of price formation in a market. It is often pointed out that the process of price formation in a market is one of the features of the process of price formation in a market. It is often pointed out that the process of price formation in a market is one of the features of the process of price formation in a market. Does the process of price formation in competitive bidding have such information efficiencies? In the common-value model, the bidders lack complete information about the item's true value; each bidder has different partial information. However, even though no single bidder has perfect information, it can be shown that, if there is perfect competition in the bidding, the selling price reflects all of the bidders' private information. If information is sufficiently dispersed among the bidders then the selling price converges to the item's true value v as the number of bidders becomes arbitrarily

large (Milgrom 1979a, 1979b; Wilson 1977). Thus the selling price conveys information about the item's true value. With perfect competition, the price is equal to the true value even though no individual in the economy knows what this true value is and no communication among the bidders takes place.²¹

Consider now the more general model, due to Milgrom and Weber (1982a), that allows correlations among the bidders' valuations, and of which the common-value model is a special case. Recall from Section IV that bidders' valuations are said to be affiliated if the fact that one bidder perceives the item's value to be high makes it likely that other bidders also perceive the value to be high. The essential difference between, on the one hand, the English auction and, on the other hand, the first-price sealed-bid, second-price, and Dutch auctions is that the process of bidding in the English auction conveys information to the bidders: The remaining bidders observe the prices at which the other bidders drop out of the bidding. It was shown for the independent-private-values auction that this extra information does not on average change the outcome, in the sense that the expected price reached is the same for each type of auction. When bidders' valuations are affiliated, in contrast, the bids in the English auction have the effect of partially making public each bidders' private information about the item's true value, thus lessening the effect of the winner's curse. As a result: *When bidders' valuations are affiliated, the English auction yields a higher expected revenue than the first-price sealed-bid*

auction, the second-price sealed-bid auction, or the Dutch auction (Milgrom and Weber 1982a). In addition, the other three auction forms can be ranked. *With affiliated valuations, the second-price sealed-bid auction yields a higher expected revenue than the first-price sealed-bid auction, which yields the same revenue as the Dutch auction* (Milgrom and Weber 1982a).

Sometimes the seller has independent information correlated with the item's value to any of the bidders. (For example, the government can do its own geological surveys before offering mineral rights for sale; the seller of a painting can obtain an expert's appraisal.) Should the seller conceal this information, or should he reveal it? *The seller can increase his expected revenue by having a policy of publicizing any information he has about the item's true value* (Milgrom and Weber 1982a). This is because the new information tends to increase the value estimates of those bidders who perceive the item's true value to be relatively low, causing them to bid more aggressively.

How important is the privacy of any bidder's information? *If one bidder's information is available to another bidder, his expected surplus is zero* (Engelbrecht-Wiggans, Milgrom, and Weber 1983; Milgrom 1981b; Milgrom and Weber 1982a). This is a striking result; it implies that it is more important to a bidder that his information be private than that it be precise.

It is in the seller's interest in a common-value auction to impose a reserve price that is strictly above his own valuation of the item. In contrast to the independent-private-values case, *the reserve price in a common-value auction varies with the type of auction and with the number of bidders*; usually, but not always, it increases with the number of bidders (Milgrom and Weber 1982a; Marc Robinson 1984). This is because,

²¹ Note that this result, which takes as given the diversity of the bidders' information, ignores the possibility that bidders might be able, at some cost to themselves, to obtain extra information relating to the item's true value. On information acquisition in auctions, see Engelbrecht-Wiggans, Milgrom, and Weber (1983), Tom Lee (1982, 1985), Matthews (1984a), Milgrom (1981b, 1985), and Milgrom and Weber (1982b).

as implied by the winner's curse effects embodied in condition (9), any bidder's ex ante valuation of winning depends upon the auction form and the number of bidders. For example, the working of the English auction provides some information about others' valuations, mitigating winner's curse effects. The more bidders there are, the more heavily the bidder, following (9), discounts his private information.

What is the optimal auction when bidders' valuations are correlated? Consider the special case in which bidders have private valuations that are not statistically independent of each other. Jacques Cr mer and Richard McLean (1985a, 1985b) have provided a method for the seller to extract all of the gains from trade from the buyer. This requires a certain type of correlation among the bidders' valuations; it will not work with pure independent values. In addition, it is assumed that only a finite number of valuations are possible; the case of continuously distributed values is not considered. The mechanism design may be understood as follows. Represent by $\pi(v_i|v^{-i})$ the probability that the i th bidder's value is v_i , given the vector of other bidders' values v^{-i} . The seller offers each bidder a lottery plus participation in a second-price auction. The trick is to design the lottery so that the lottery's expected value for the i th agent is precisely the expected value the agent receives from the auction, and the outcome of the lottery depends only on v^{-i} and not on v_i . This ensures that the agents continue to bid honestly in the second-price auction, because a change in bid by bidder i does not affect his lottery. The condition that permits such a lottery to be designed is that v_i is, in a probabilistic sense, recoverable from v^{-i} ; more precisely, the matrix $\pi(v_i|v^{-i})$ is of full rank (equal to the number of possible values v_i can take on). Thus, the Cr mer-McLean result asserts that, if the distribution of each

agent's valuation is altered sufficiently by changes in the other agents' valuations, the full surplus can be extracted by the seller.²²

XI. Further Topics

Each of the four main assumptions underlying the benchmark model has now been relaxed. This section more briefly considers some additional questions.

1. Variable Supply and Capacity Constraints

In the models considered so far, only a single unit of an item is being sold. The opposite polar case occurs when the monopolist produces under constant returns to scale and can freely vary the amount offered for sale. What then is the optimal selling scheme when, as before, the seller does not know the buyers' tastes?

Suppose for simplicity that each buyer wishes to buy at most one unit of the commodity. Each buyer's valuation of the single unit is drawn independently from a distribution note by c the constant returns to scale, the i th bidder's value is v_i , given the vector of other bidders' values v^{-i} . The seller offers each bidder a lottery plus participation in a second-price auction. The trick is to design the lottery so that the lottery's expected value for the i th agent is precisely the expected value the agent receives from the auction, and the outcome of the lottery depends only on v^{-i} and not on v_i . This ensures that the agents continue to bid honestly in the second-price auction, because a change in bid by bidder i does not affect his lottery. The condition that permits such a lottery to be designed is that v_i is, in a probabilistic sense, recoverable from v^{-i} ; more precisely, the matrix $\pi(v_i|v^{-i})$ is of full rank (equal to the number of possible values v_i can take on). Thus, the Cr mer-McLean result asserts that, if the distribution of each

$$c = r - \frac{1 - F(r)}{f(r)} \quad (10)$$

(Harris and Raviv 1981b; Matthews 1983.) (To obtain (10), note that the probability that any one customer buys at price r is $1 - F(r)$, so that the expected

²² Because the second-price auction is a dominant-strategy auction, the Cr mer-McLean auction/lottery also has a dominant equilibrium (although participation is not necessarily a dominant strategy). With slightly weaker assumptions on π , a Bayes-Nash equilibrium auction that extracts all of the surplus can be constructed. Note also that the optimal-auction result of Myerson (1981) allows a limited kind of affiliation among valuations.

profit per potential buyer is $[1 - F(r)](r - c)$. This is maximized when (10) is satisfied.) The posted price when capacity is unlimited is exactly the same as the reserve price when only one unit is to be sold (as in Section VI).

Between the cases of single unit and unlimited capacity is the case in which a fixed quantity is put up for sale and buyers may bid for some portion of the available units. One example of such an auction is the weekly United States Treasury bill auction (Smith 1967). Another example is the New Zealand government's auctioning of import quotas (Pickford 1985).

Two kinds of sealed-bid auctions are used to sell multiple units. Bidders submit bids that consist of both a price and a desired number of units of the commodity. Suppose enough units are available that the h highest bidders can be awarded the item. In the discriminatory auction, each of these h bidders pays the amount he bid. In the uniform-price auction, each successful bidder pays a price equal to the highest unsuccessful bid, the $(h + 1)$ st bid. Clearly the former corresponds, in the single-unit case, to the first-price auction, and the latter corresponds to the second-price auction.

Results similar to the single-unit case can be established for multiple-unit auctions. For example, for the benchmark model, the discriminatory auction yields on average the same revenue as the uniform-price auction. Risk aversion of bidders results in the discriminatory auction yielding higher average revenue than the uniform-price auction, while in the common-value case this ordering is reversed (Weber 1983).²³

²³ For further analysis of auctions of multiple units of a commodity, see Engelbrecht-Wiggans and Weber (1979), Harris and Raviv (1981a, 1981b), Donald Hausch (1986), Maskin and Riley (1983b, 1984a), Matthews (1983, forthcoming), McAfee, McMillan and Whinston (1987), Milgrom (1985), Thomas Palfrey (1980, 1983), Vernon Smith (1967), Weber (1983), and Wilson (1979).

2. Collusion Among the Bidders

It has been assumed so far that the bidders act noncooperatively: They do not coordinate their bids. This assumption may not be appropriate in some circumstances, especially when the same bidders compete with each other over many successive auctions. Collusion may consist of either explicit agreements about which bidder will be allowed to win any particular auction, or implicit understandings that restraint will be exercised in bidding.

The familiar analysis of repeated oligopoly games can be applied to repeated auctions. In an infinitely repeated game, a collusive outcome can be maintained as a noncooperative equilibrium if each of the oligopolists adopts a strategy of threatening to retaliate to any deviation from the collusive arrangement by reverting to noncooperative behavior in future periods. This is the Folk Theorem of repeated games (see Robert Aumann 1981; in an incomplete-information setting, see Dilip Abreu, David Pearce, and Ennio Stacchetti 1986). Anecdotal evidence suggests the empirical relevance of the repeated-game argument. It has been observed that collusion in antique and artwork auctions is enforced by retaliatory strategies: the response to a defection by a cartel (or "ring") member is that "vindictive competition leads to crazy prices" (Jeremy Cooper 1977, pp. 37-38).²⁴

For retaliatory strategies to be workable, it must be possible for the bidders to infer the other bidders' past actions. As George Stigler (1964, p. 48) remarked

²⁴ Milgrom (1986) showed that there is a sense in which repeated English auctions are more susceptible to collusion than repeated first-price sealed-bid auctions. Robinson (1985) showed that an implicitly collusive outcome could be reached as a Nash equilibrium in a single English auction. However, his analysis assumes that each bidder knows his rivals' valuations, which assumes away much of the auction problem.

of government procurement auctions, "the system of sealed bids, publicly opened with full identification of each bidder's price and specifications, is the ideal instrument for the detection of price cutting . . . collusion will always be more effective against buyers who report correctly and fully the prices tendered to them."²⁵ This may explain the tendency for private-sector firms to use closed negotiations rather than formal auctions for procurement.

How does a cartel decide which member is to receive the item? In English auctions, a common method in practice is for one member arbitrarily to be assigned to bid for the item without competition from his fellow cartel members. Afterward, the item is reauctioned among the cartel members. Such behavior occurs in auctions of antiques, fish, timber, industrial machinery, and wool (Cassady 1967, Ch. 13; Cooper 1977, pp. 35-38; F. H. Gruen 1960). The cartel member who values the item the most will win the bidding in the illicit auction at a price equal to the second highest valuation among cartel members. The cartel shares among its members a sum of money equal to the difference between the price reached in the cartel's own auction and the price reached in the original auction.

What should a seller do if he believes he faces a buyers' cartel? According to Cassady (1967, pp. 228-30), reserve prices are commonly used to counter the activities of cartels. To understand this practice, assume for simplicity that all n bidders belong to the cartel, and that assumptions A1, A2, A3, and A4 of the benchmark model are satisfied. The cartel not only reduces to one of the effective number of bidders; it also changes the effective distribution of valuations. Assume that (perhaps by the reauctioning

process described above) the cartel can ensure that the member who values the item the most ultimately gets it. The relevant distribution for the seller faced with the cartel is the distribution of the maximum of n valuations, each drawn from the distribution $F(x)$; this distribution of maxima is $F^n(x)$, with density $nF^{n-1}(x)f(x)$. Thus an argument the same as that in Section VI but for this density yields: *The optimal anticartel reserve price r satisfies*

$$r_0 = r - \frac{1 - F^n(r)}{nF^{n-1}(r)f(r)}, \quad (11)$$

where r_0 is the seller's own valuation (Daniel Graham and Robert Marshall 1984, 1985; Robinson 1984). This implies that the anticartel reserve price increases with the number of cartel members. Also, the anticartel reserve price is higher than the optimal reserve price in the absence of collusion.

3. Double Auctions

It was assumed in the foregoing analysis that there was only one seller and that his valuation of the item was independent of all of the bids. If, instead, there are several sellers and several buyers, draw valuations independently from some distribution.

In a sealed-bid double auction, all sellers and buyers submit bids, buyers for how much they are willing to pay and sellers for the price at which they are willing to sell. Ranking the buyers' bids from highest to lowest produces a bid-demand function which is a step function. Similarly, ranking the sellers' bids produces a supply step function. The intersection of demand and supply generally gives a quantity and an interval of prices. This is the quantity exchanged; the price is chosen from the interval according to some arbitrary rule. This resembles the

²⁵ On the various methods by which bidders for government contracts achieve collusion, see Organization for Economic Cooperation and Development (1976).

standard Walrasian model in which agents report their demand and supply curves to the auctioneer. However, the choice of bids reflects individuals' strategic attempts to manipulate the selling price, so that the quantity and price interval reached are not necessarily those of the competitive equilibrium.

Few results on the double auction exist, because of the difficulties of modeling strategic behavior on both sides of the market. The main result is an efficiency result concerning double auctions with sealed bids. *If there are sufficiently many buyers and sellers, then there is no other trading mechanism that would increase some traders' expected gains from trade without lowering other traders' expected gains from trade* (Wilson 1985). That is, the sealed-bid double auction would survive any attempt to get the traders to agree unanimously to change the trading institution.²⁶

The oral double auction, with the bids and offers openly called, is still more difficult to model because the process takes place over time and agents do not know what prices will be available if they wait instead of trading now. For some analysis of the oral double auction, see David Easley and Ledyard (1982), Daniel Friedman (1984), and Wilson (1986b).

XII. Empirical Studies of Auctions

What is the empirical content of auction theory? There are far fewer empirical than theoretical studies of auctions. Also, with the exception of some studies of common-value auctions (using mineral-rights bidding data), the existing empirical studies make little use of modern auction theory. As a result (again, except

in the mineral-rights studies), only the more commonsense propositions have been tested.

The independent-private-values model predicts revenue equivalence: Each of the four simple auctions yields the same price on average (Section V above). Unfortunately, this prediction is sensitive to changes in the underlying assumptions, making difficult the task of empirically testing it. If the bidders have independent private valuations but are risk averse, then the first-price sealed-bid auction yields a higher price on average than any of the other simple auctions (Section IX). This ranking is reversed if the bidders are risk neutral but have correlated valuations; then the English auction yields the highest price (Section X). If there are observable differences among the bidders' valuations, the ranking is indeterminate (Section VII). Thus any empirical test of revenue equivalence should carefully control for risk aversion of the bidders, correlations among their valuations, and asymmetries among the bidders.

Risk aversion is likely to be important when the item being sold is very valuable so that the bids are large relative to any bidder's assets. Examples of valuable items that are auctioned include mineral rights, government contracts, and artwork; however, artwork, mineral rights, and, in some cases, government contracts also have common-value aspects. Government-procurement auctions and mineral-rights auctions are usually sealed-bid; this may be a consequence of the result that risk aversion makes the sealed-bid auction preferable to the English auction. On the other hand, artwork is usually, but not always, sold by English auction, even though risk aversion is likely to be significant in at least some cases. Presumably in the case of artwork the correlations among bidders' valuations outweigh the risk-aversion effects

²⁶ Also, Wilson (1986a) showed that, for the case of equal numbers of buyers and sellers with valuations distributed uniformly, the double auction satisfies the stronger criterion of ex ante efficiency: It maximizes the expected gains from trade.

in the bidding. Low-value items like agricultural produce, for which risk-aversion effects are likely to be negligible, are usually sold by English auction.

The U.S. Forest Service has used both first-price sealed-bid auctions and English auctions to sell contracts for harvesting timber. This provides an opportunity for testing the Revenue-Equivalence Theorem: Do the two methods yield the same price on average? Walter Mead (1967) ran ordinary-least-squares regressions with, as the dependent variable, the logarithm of the ratio of bid price to appraised price and, as the independent variables, a dummy variable for the auction method and the logarithm of the quantity of timber for sale. The conclusion was that the sealed-bid auctions had yielded significantly higher revenue than the English auctions. Further unpublished regressions by Mead and coauthors (summarized by Hansen 1985b) supported this conclusion, finding that the sealed-bid auctions yielded about 10 percent more revenue. These results have been questioned by Hansen (1985b, 1986), who noted a selection bias caused by the way the Forest Service chose which auction to use.²⁷ (Evidently the Forest Service does not believe in revenue equivalence.) Some unobserved variables, such as the bidders' timber inventories, affected the choice of auction method. But to the extent that these variables also affected the size of the bids, ordinary-least-squares estimates are biased. After correcting for this selection bias by using a simultaneous-equations model, Hansen found that, although the sealed-bid auctions yielded slightly higher prices than the English auctions, the difference was statistically insignificant. (With high bids averaging \$130, the expected difference in revenue was be-

tween \$1 and \$6, with a standard error of \$5.) Revenue equivalence therefore cannot be rejected.

A question not addressed in these timber-bidding studies is, How appropriate is the independent-private-values assumption in this application? In other words, on a priori grounds, should we expect revenue equivalence to hold in this set of data? Because different bidders have different inventories of timber on hand and different stocks of equipment for harvesting timber, it is reasonable to suppose that there are inherent differences among the bidders' valuations at any particular sale. But because the timber is eventually to be resold at the as yet unknown market price, there might be some correlation among the bidders' valuations. To the extent that the second effect is empirically significant, the independent-private-values assumption breaks down and the appropriate model is the affiliation model of Milgrom and Weber (1982a) (see Section IV). We are now left with a puzzle. Contrary to the empirical results just

discussed, the high-price puzzle could be attributed to risk aversion. The puzzle remains an open question.

Given the sense in which the Revenue-Equivalence Theorem holds under the usual assumptions, this theorem cannot be meaningfully tested until some way is found to test for independent private values against affiliated values.

A further reason, distinct from correlation of valuations, why revenue equivalence can break down is the existence of systematic differences among bidders' valuations that are observable by all of the bidders (as discussed in Section VII). For timber-rights bidding, Ronald Johnson (1979) and Hansen (1986) suggested that such variables as the required amount of road building or the required

²⁷ For the institutional details of the auction-selected process, see Hansen (1986, pp. 129-31).

harvest rate might cause harvesting costs and therefore valuations to differ in observable ways among the bidders. Johnson separated the data into auctions with symmetric bidders and auctions with asymmetric bidders by an ad hoc method: He hypothesized that asymmetry is more likely the larger the amount of road construction required, and took as his cutoff between symmetry and asymmetry sales involving \$20,000 worth of road building. He ran ordinary-least-squares regressions with, as dependent variable, the price, and as independent variables, a dummy representing the auction form as well as all of the components of the Forest Service's appraisal. For the symmetric auctions, consistent with the Revenue-Equivalence Theorem, there was no significant difference in price between the English auctions and the sealed-bid auctions. For the asymmetric case, there was a significant difference: The sealed-bid auctions yielded higher prices. Contrary to Johnson's interpretation, however, this does not test the theory, because in the asymmetric case there is only an ambiguous result: Either auction form can yield the higher price (see Section VII).²⁸

Another theoretical result on asymmetric auctions is that, in the absence of a reserve price, an English auction always yields an efficient outcome (the bidder with the highest valuation wins), whereas a sealed-bid auction may yield an inefficient outcome (Section VII). When the seller is the government (as in the timber-rights auctions), this provides a reason for using English auctions that is distinct from issues of revenue

raising. Johnson (1979) tested this proposition by noting that it implies that, if resale is allowed, it should occur only after a sealed-bid auction and not after an English auction. In Johnson's data, with a total of 379 sales, all seven of the resales that occurred followed sealed-bid auctions, corroborating the theory.

In value terms, one of the world's largest users of auctions is the U.S. Treasury in its selling of securities. This is an instance of a multiple-unit auction: Both the discriminatory auction (in which each successful bidder pays the amount he bid) and the uniform-price auction (in which all pay a price equal to the lowest accepted bid) have been used to sell Treasury bills. Because this is a common-value setting, theory predicts that the uniform-price auction, which is similar to the second-price auction, yields more revenue than the discriminatory auction, which corresponds to the first-price auction (Sections X and XI.1). Charles Baker (1976) summarized some Treasury studies that attempted to compare the performance of the two auction forms. Unfortunately the data are not strictly comparable: Uniform-price auctions were used to sell long-term bonds, whereas discriminatory auctions were used to sell short-term and medium-term bonds. Because of this, the empirical conclusions can only be tentative; however, they do support the theory, in that the uniform-price auctions seemed to generate the higher revenue.

An unsurprising prediction of auction theory is that, other things being equal, a bidder with a higher valuation will submit a higher bid (or, in the case of contract bidding, a firm with lower costs submits a lower bid). In their study of bidding for construction contracts for San Francisco's Bay Area Rapid Transit system, Kenneth Gaver and Jerold Zimmerman (1977) estimated a model with, as the dependent variable, the level of each

²⁸ Maskin and Riley (1985) conjectured that, in an asymmetric auction, a sealed-bid auction yields a higher price than an English auction if the bidders have distributions of valuations with roughly the same shape but different supports. While it remains to be shown that this is valid in general, it provides a potential explanation for Johnson's finding.

firm's bid for each contract, and, among the independent variables, various proxies for costs as well as the number of bidders. They found that bids were higher (a) the more BART work the bidder had in process; (b) the less time the contractor had to complete the project; and (c) the smaller the firm. Of these three variables, (a) reflects the bidder's opportunity cost, and (b) and (c) affect production costs if it is presumed respectively that faster production is more costly and that there are economies of scale.

Another prediction is that competition matters: The winning bid increases as the number of bidders increases (or, in the case of contract bidding, the winning bid falls). In their study of contract bidding, Caver and Zimmermann (1977) found that the price fell as the number of bidders increased. One of their regressions, for example, implied that bids decline by about 2 percent when the number of bidders increases by one. Similarly, Lance Bramman, Douglas Klein, and Leonard Weiss (1984), using data from auctions of tax-exempt bonds, government-owned timber, and offshore oil rights, and attempting to control for the inherent value of the item being sold, found the effect of the number of bidders on the price to be statistically significant. Large gains can be obtained by introducing bidding competition where none formerly existed: Larry Yuseph (1976) found price differences averaging 50 percent between identical military contracts let successively on a sole-source basis and under competitive bidding. A cartel reduces the effective number of bidders: In a study of collusion among bidders for North Carolina highway-construction contracts, Jonathan Feinstein, Michael Block, and Frederick Nold (1985) found that the cartel not only significantly raised the bids but also reduced the variance of the bids.

While there appear to be no econometric analyses of the use of reserve prices (Section VI), there is some informal evidence. Practice does not seem to be in accord with the theoretical result that it is in a seller's interest to announce a reserve price. In practice, reserve prices are often not used; when they are used, their existence is often not announced, and even when their existence is announced, the seller usually keeps the level of the reserve price secret (Cassady 1967, pp. 226-27). Thus there appears to be a discrepancy between theory and practice.²⁹ Consistent with the prediction that the reserve price will be set at a level that exceeds the seller's own valuation, in the Netherlands cut flowers not attaining the reserve price are destroyed, indicating that their value to the seller is zero despite being given a positive reserve price (Cassady 1967, p. 230).

Studies of the bidding for offshore oil rights have focused on the existence and consequences of the winner's curse (Section X).³⁰ The first of these studies, by Capen, Clapp claimed that v average less t turn on their surprisingly l tio of highest as 100 and typ indicating much the amount of oil beneath any tract. They attributed the low rates of return to the fact that "the winner tends to be the

²⁹This need not, however, be inconsistent with theory. One explanation for the seller's not imposing a reserve price is that he lacks the necessary bargaining power, that is, the ability to precommit himself to his selling policy (see Milgrom 1986).

³⁰The auctioning of mineral rights to government-owned land is almost unique to the United States; governments in other countries usually allocate mineral rights to firms by discretionary procedures (Ramsey 1980, pp. 56-62). It is noteworthy, however, that in 1982 the People's Republic of China began auctioning offshore exploration contracts (*New York Times*, March 23, 1985).

player who most overestimates the true tract value" (p. 643). The conclusion of Capen, Clapp, and Campbell about low rates of return was based on casual empiricism. Subsequent, more careful studies have overturned this conclusion. Mead, Moseidjord, and Sorensen (1984) estimated after-tax internal rates of return of outer-continental shelf lessees to be roughly the same as the average rate of return on investments in the U.S. manufacturing industry. Kenneth Hendricks, Robert Porter, and Paul Gertler (1986) similarly found reasonable rates of return. Hendricks, Porter, and Gertler also discussed the practical importance of two aspects neglected by the theorists. Often, several tracts are auctioned simultaneously, so that a bidder's decision on how to bid on one tract may be influenced by his bids on other tracts. Moreover, as also emphasized by Otis Gilley and Gordon Karels (1981), there is a prior decision on whether to bid on a particular tract; only some of the potential bidders actually bid for any one tract. There tend to be more bidders for tracts that are perceived to be more valuable. Thus estimating the effect of competition by simply regressing price on the number of bidders (as discussed above) can be misleading.

Gilley and Karels (1981), after correcting for the sample-selection bias arising from the bidders' participation decisions, found that individual bids in an oil-rights auction decreased as the numbers of bidders increased. This apparently paradoxical result can be explained as resulting from the bidders' rationally taking account of the winner's curse effect of condition (9) above. Recall that a rational bidder in a common-value auction bases his bid not only on his own estimate of the item's worth, but also on the presumption that he has the highest estimate. The more bidders there are, the more marked is the second of these ef-

fects. This can mean that individual bids decline as the number of bidders rises. Hendricks, Porter, and Gertler (1986), generalizing the Gilley-Karels model by allowing nonlinear bidding functions, found that bids initially increased and then decreased as the number of bidders increased. (Note that these results are not inconsistent with the result that the winning bid increases with the number of bidders, for the more bidders there are, the more likely it is that some bidder perceives the item's value to be high.) More accurate information about the item's true value mitigates the effect of the winner's curse in causing the bidders to be cautious; Gilley and Karels found that the smaller the variance in the initial estimates of the tract's value, the higher the bids. With millions of dollars at stake, the oil firms evidently avoid falling victim to the winner's curse.

The results of Milgrom and Weber (1982b) (Section X above) create a presumption that having private information raises a bidder's profits. A test of this prediction is provided by the study of oil-rights bidding by Mead, Moseidjord, and Sorensen (1984) (although the study is not explicitly based on the Milgrom-Weber model). Two types of leases exist: drainage tracts (close to an existing well) and wildcat tracts (in an area for which no drilling data exist). For drainage tracts, denote by "neighbor" a bidder who has information because he has already drilled nearby wells. Mead, Moseidjord, and Sorensen estimated that there were gains from superior information. Drainage leases earned a higher after-tax internal rate of return than wildcat leases, and, among drainage leases, neighbors earned a higher rate of return than non-neighbors. Similar results were obtained by Hendricks, Porter, and Bryan Boudreau (1987). Theory suggests that the gains from superior information are lessened if a rival also has superior

information (Milgrom and Weber 1982a). Mead, Moseidjord, and Sorenson, however, found an unusually high rate of return when a neighbor competed with a neighbor (although a very small sample underlay this estimate).³¹

More empirical work is needed, both because several testable predictions remain untested and because usable sets of microlevel data have not yet been exploited. To what extent do royalties serve to extract surplus from the bidders, as discussed in Section VIII? Mineral-rights auctions, which sometimes use royalties and sometimes do not, might provide data for estimating this. Mineral-rights data might also be used to address the question: When reserve prices are used, are they set at a level that approximates the optimum (Sections VI, X)? Government contracting provides an underexploited source of data on bidding; questions such as the effect of incentive contracts as a rent-extracting device (Section VIII) and the effects on the bids of discriminating against foreign bidders (Section VII) could be examined. What types of auction are actually used when the bidders are markedly risk averse (Section IX)? In privatizing publicly owned firms, governments sometimes have auctioned the whole firm and sometimes have sold shares at preset prices. Which method has yielded more revenue for the government? Different auction forms are used in apparently similar circumstances; for example, at various times and in various places, tobacco has been sold by English, Dutch, and first-price

sealed-bid auctions. Can each use be explained, or is this merely due to revenue equivalence, which means that the seller is indifferent about the choice of auction form?

Another source of empirical evidence on bidding behavior is laboratory experiments. There is a large and growing literature on experiments with auctions, which is not surveyed here for space reasons. See Charles Plott (1982) and Vernon Smith (1982) for general surveys of experimental economics, including some discussion of auction experiments; and, for representative papers, see Cox, Smith and Walker (1984) (on independent-private-value auctions) and Max Bazerman and Samuelson (1983) (on common-value auctions).

XIII. An Agenda for Research

Many questions about the working of the various auction institutions remain unanswered by the theory.

Much of the existing theory assumes independent private values, which makes for elegant world auction theory (as Milgrom persuasively argues). Independent private values requires that there be no resale possible, that the bidder knows exactly how much he would be worth to him. In the case of contract bidding, independent private values means that firms' production costs differ only because of differences in their production capabilities or in their alternative opportunities; however, if there is a common element of technological uncertainty, then the appropriate assumption is affiliation (Section IX). Despite the prevalence in practice of affiliation of valuations, little is known beyond the analysis of Crémer and McLean (1985a, 1985b) about optimal auctions with affiliated values.

³¹ There is a stylized fact from the sealed bidding for mineral rights: In common-value auctions, the distribution of bids is approximately lognormal (Chestner-Pelto 1971; Reece 1978). Albert Smiley (1979), however, found that the Weibull distribution fitted bidding data better than the lognormal distribution. The shape of the distribution of bids is of interest for simulating bidding behavior; also, under the assumption that the theory is correct, the distribution of valuations can be deduced from the distribution of bids.

In all of the existing models, the selling is in effect done by the owner. In practice, often the owner hires an agent, the auctioneer. How can the auctioneer be motivated to act in the owner's interest? Should he be paid a fixed fraction of the selling price? Might the buyer pay the auctioneer in some circumstances? Does the presence of a hired auctioneer affect the choice of auction form?

A question prompted by the empirical studies (Gilley and Karels 1981; Hendricks, Porter, and Gertler 1986) is, What determines the number of bidders? Although most existing models take the set of bidders to be exogenous, the bidders do in fact make a decision to learn their valuations. What are the determinants of this decision? The costs of collecting information and preparing a bid presumably are relevant here (compare with French and McCormick 1984, McAfee and McMillan 1987b, Samuelson 1985). How does the incorporation of this decision affect the performance of the different auction forms? How does the choice of auction form influence this decision?

In government contracting, bids are often multidimensional, involving quality as well as price. For example, in the competition for the contract for a new fighter aircraft, design features are at least as important as price. If the government has its own preferences over the various quality attributes and price, and the different firms have different technological trade-offs, what is the best procurement mechanism?³²

The advantages resulting from the seller's ability to commit himself to a mechanism have been made apparent: We know why the seller would want to commit himself. One might conjecture that

commitment is a natural concomitant of monopoly: A rational monopolist will find some way to achieve commitment. However, it is not well understood how this can be done. One way of rationalizing this is that the seller plays the game repeatedly, while the buyers play it only once. Then it might be in the seller's interest to adhere to his mechanism, for a deviation might destroy his commitment ability for the future. However plausible this argument appears, it remains to be formalized and its logical coherence remains to be established.³³

The opposite question should also be addressed. What happens if we drop the assumption that the seller is able to commit himself? The commitment assumption makes the theorist's life easier by providing a clear-cut solution in place of the indeterminacy of the bargaining problem: Apart from the rents due to the informational asymmetries, all of the gains from trade go to the individual who is able to precommit himself. Without the commitment assumption, the bargaining problem must be addressed. In an interesting analysis, Milgrom (1986) developed a bargaining model in which a seller finds it in his interest to sell by auction. This is an important area for further research.

Turn now to the broader questions posed by Hayek (1945) and discussed in Section I. To what extent has auction theory generated answers to questions about the working of the price system in the presence of informational asymmetries?

The questions examined by auction theory form a subset of the class of *adverse-selection* problems; that is, problems in which one individual knows something that the others do not know (Arrow 1985). The foregoing theorems

³² This question was posed by Paul Milgrom and by William Samuelson. The second-stage decision in Riordan and Sappington (1987) can be interpreted as a quality decision.

³³ Also, repeated games typically have many equilibria. It may be that, while commitment emerges as an equilibrium of a repeated mechanism-design game, noncommitment remains as another equilibrium.

show that bidders can be induced to reveal implicitly (or, in the case of the Vickrey auction, directly) their private information, namely, how highly they value the item. With some exceptions (given in Sections VI and VII), the bidder who values the item the most is awarded it. The Revelation Principle shows that, in many cases, individuals can be given incentives to share their information. As Hayek suggested, markets can work despite the dispersion of information.

The results described above have generated some insights into how the price system works: into the nature of the process of bidding competition and price formation. We have arrived at some understanding of why particular trading institutions—the English auction, for example—arise in particular circumstances. (See the optimal-auctions analyses of Sections VI and VII.) Do prices serve to aggregate dispersed information? The result of Wilson (1977) and Milgrom (1979a) (summarized in Section X) shows that they can: Provided there are many bidders, and provided information is sufficiently dispersed among the bidders, the price equals the item's true value even though no individual knows what this true value is. Is it correct, as Hayek asserted, that the price summarizes all of the relevant information about supply and demand? The answer is no: If competition is less than perfect it is in the seller's interest, if possible, to adjust the price after the sale in the light of any new information he obtains about the item's value to the buyer (as discussed in Section VIII).

Much remains to be done. The auction models are partial-equilibrium models. The role of the price system in coordinating the actions of different people cannot be understood except within a general-equilibrium system. How to embed bidding models in a general-equilibrium context remains an open question. Ques-

tions of the existence and social optimality of competitive equilibrium with informational asymmetries await the resolution of this question.

One crucial step toward a general-equilibrium formulation is modeling competition among mechanism designers. Consider a seller who designs an auction-like mechanism. If the buyers have an alternative, that is, if the seller faces a competing mechanism, competition may constrain the seller's choice of mechanism. If there is one phenomenon that economists understand to be important, it is competition. Solving the difficult technical problems of modeling competition among mechanisms is, in our view, the major problem facing the asymmetric-information literature.

XIV. *Machiavellian Advice to a Monopolist*

You are the seller of some good or service in the fortunate position of having no competitors. How should you set your selling price? Should you charge the last possible price?

The first rulers of the world believe that the best strategy you have in any circumstance is to charge the price you are visibly willing to accept. This prevents you from alienating your customers and allows you to charge exactly how much you want for your product, or price to any particular buyer, without giving the sale.

Should you post a take-it-or-leave-it price, or should you hold an auction? If your production capacity is large, fixing a price maximizes your expected profits. The price you should charge, if you believe your customers' valuations of your product are approximately uniformly distributed, is the average of your unit production cost and the highest possible val-

uation (provided this exceeds the lowest possible valuation). On the other hand, if you have only one or a few units to sell, you should sell by auction.

What kind of auction should you choose? To answer this question, you *must know whether your customers* would be prepared to pay higher prices in exchange for your sheltering them from risk. You must also know whether differences among the bidders' valuations of the item are due to inherent differences in their tastes or to their having made different guesses about the unique true value of the item.

If your customers are no more reluctant to bear risk than you are and their different valuations reflect their different tastes, then your best selling device is any of the simple auction forms: English, Dutch, first-price sealed-bid, or second-price sealed-bid. You should impose a reserve price. If the commodity is useless to you unsold, and if you estimate the distribution of your customers' valuations to be approximately uniform, the reserve price you should set is one-half of the maximum possible valuation.

If your customers prefer to avoid risk, then you are no longer indifferent among the simple auction forms; your revenue will on average be higher from a first-price sealed-bid auction than from an English auction. However, if you have very sophisticated computational capacities, you can do still better by announcing that you will require payment from bidders who bid too low and that you will subsidize bidders who bid high but not quite high enough to win. You should, if possible, keep secret from each bidder how many other bidders he is competing with.

If the bidders fall into several categories and you observe that there are systematic differences in valuations across categories, then you can exploit this to your advantage (provided you can some-

how prevent resale by the winning bidder). You do this by discriminating in favor of bidders in the category with on average low valuations: You announce that you will accept a lower bid from a member of the favored category over a higher bid from a member of another category, provided the difference in bids is not too great.

If you can monitor the buyer's subsequent usage of the commodity, you should, by the use of a royalty scheme, require continuing payments from the buyer based on value in use: Royalties induce the bidding to be more competitive.

If the item you are selling has a unique true value, but the bidders have different imperfect estimates of this value, the English auction will on average yield more revenue for you than any of the other simple auction forms. You can encourage the bidders to raise their bids by having a policy of publicizing any information you yourself have about the item's true value.

Finally, if your monopoly power is being eroded by the formation of a countervailing buyers' cartel, you can regain some of your monopoly profits by increasing your reserve price, making it higher the larger the number of cartel members.

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Book Reviews

000 General Economics; Theory; History; Systems

010 GENERAL ECONOMICS

The world as a total system. By KENNETH F. BOULDING. Beverly Hills, London and New Delhi: Sage, 1985. Pp. 183. \$25.00. ISBN 0-8039-2443-7. JEL 86-0002

Human betterment is the overall aim of *The World as a Total System*. As Kenneth Boulding stated in his AEA Presidential address in 1968, "I did not become an economist for anybody's applause; I became an economist because I thought there was an intellectual task ahead, of desperate importance for the welfare and even the survival of mankind." Toward that end, this book tries—successfully—to provoke us to think about the very long course of events, and to ponder where our own daily professional interests fit in.

The first chapter's title asks: "Which systems can we perceive in the world?" and the following chapter headings answer in this order: physical, social, economic, political, communication, and evaluative systems.

The first sentences of the book give Boulding's definition of a system: "Anything that is not chaos," or "any structure that exhibits order and pattern." But I do not think these statements well describe the book's subject. All that is required for there to be an absence of chaos is an absence of independence between two elements; that is, if there is complete independence, predictability is impossible. Any incompletely-mixed urn of red and black balls permits some predictability about the color of the next ball from the color of a given drawing. But such an urn probably would not constitute a system for Boulding. And a baseball breaking a window at which it is thrown is not only predictable but is thought of as causal, yet it also would not be the sort of system that Boulding discusses.

A better though more turgid definition of "system": A set of elements that we analyze on a particular dimension and at a particular level of abstraction, a set within which if one fails to take proper account of some elements, understanding of the behavior of other elements is in peril. The practice of economists in thinking of an economy as a system in this fashion is a great strength of our discipline compared to the other social sciences, when considering rent control, for example, economists immediately ask about not only the direct effects on the rents paid by the poor—at which point the thinking of too many noneconomists stops—but also about such indirect effects as upkeep, new construction, and a shift to investment in other markets. This is the single lesson in Henry Hazlitt's *Economics in One Lesson*. And indeed, true to his origins as an economist, a key aspect of all the systems that Boulding deals with is sufficient complexity such that any sound thinking must take . . .

interrelationships;
obvious relation
baseball to wine

Boulding points out that in delineating a few systems, we are describing them in a way that knowledge is encyclopedic, reduced to think about the system in more comprehensive ways. This valuable exercise, which promotes understanding and triggers new ideas, is Boulding's purpose, I believe, and he succeeds admirably.

Valuable as is Boulding's emphasis on grand abstractions, there also is a drawback, focusing our attention away from the concrete. In this respect, I confess to a bias in favor of the point of view espoused by William James, who frequently and forcefully asserted the importance of keeping touch with nitty-gritty experience. Focusing on models can lead into error even as wise and careful a student as Boulding. Consider this example:

The change in the physical system of the world, closely related to certain changes in the biological and social systems, that presents perhaps the greatest source of concern for the human race at the present is soil erosion . . . this is a problem of the same order of magnitude as the using up of fossil fuels, and we may have even less time to correct this imbalance. This is something that we simply cannot afford to lose. (p. 47)

Soil erosion does cause concern. But the concern is misplaced. There are no data showing deterioration of the land worldwide; the only relevant evidence is data showing that the quantity of arable land is increasing rather than decreasing. And in the United States, where there are data bearing directly upon soil erosion, the condition of farmland has been improving rather than deteriorating since the first measurements in the 1930s, as Theodore Schultz attests from his own experience since boyhood as well as from the survey data (1982). And Earl Swanson has shown that the main problem that soil erosion causes is costly silting up of drainage systems, rather than loss of productive capacity of farmland (1984). Such erroneous assessments—like the errors of the 1970s about supplies of oil and minerals and food—can be extremely costly to society, not only in misallocated resources but also in unsound governmental decisions and in morale. And it seems to me that fascination with abstractions—world systems and computer models—often leads away from attention to data, and hence is an important cause of such errors.

Playing with grand systems is playing with fire. Like fire, Kenneth Boulding always illuminates.

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Regulatory policy and the social sciences. Edited by ROGER G. NOLAN. California Series on Social Choice and Political Economy. Berkeley, CA and London: University of California Press, 1985. Pp. xi, 400. \$37.50. ISBN 0-520-05187-4. JEL 86-0968

This volume contains the proceedings of an NSF-sponsored conference that gathered non-economist social scientists to explore the scope of regulation research in their disciplines. The essays are a diverse lot, as their origin would suggest. Rather than commenting on the merits of specific contributions, this review focuses on the lessons which economists might draw from the volume.

It is immediately apparent that the economist's approach to analyzing the forces governing regulation has few adherents in other social sciences. Economists typically analyze political markets in much the same way they approach economic markets. Decision makers optimize subject to constraints imposed by, among other things, the actions of those affected by their decisions. The objective function can incorporate regulator preferences distinct from the preferences of those the regulation affects, but those preferences must be reasonably stable. Most of the contributors to this volume conceive of the political process in quite different terms. Several argue that the state can and does act autonomously, hatching policies it then sells to the governed. For this conception to constitute an alternative to the economic approach, the state must not only have an objective function of its own, but the tastes reflected in that objective function must shift significantly over time. It is not surprising that a number of political scientists, attracted to their specialty by the notion that elections matter a great deal, assert the primacy of political actors, as opposed to the alternative view that policies shift primarily in response to exogenous changes in the well-being of those touched by regulation.

The contributions by Theodore Lowi and Morris Fiorina are compatible with the economist's view, but represent a distinct minority. Lowi reiterates his position that exogenously chosen policies induce the politics and institutional structures that surround them. Lowi's discussant, John Ferejohn, takes sharp issue with this direction of causation, arguing that

if there is one major theme of studies of American policymaking institutions . . . it is that the scope for political leadership is broad and that leaders possess a great deal of discretion. . . . [Policymaking] institutions and the social processes that evolve within them appear to possess powerful internal dynamics that inhibit their direction by external social or economics forces. (p. 106)

Fiorina's interesting analysis of the delegation of legislative authority looks very much like an economic analysis. His discussant, William Riker, while justifiably admiring the paper, remarks that Fiorina's analysis does not go far enough in casting his model as one where politicians choose according to their preferences rather than in terms of the costs and benefits of the clients they regulate. While perfectly consistent with an economic approach this perspective, when implemented, yields very different treatments of regulation.

Emphasizing the autonomy of political actors encourages the investigator to focus on individual participants of the political process. Thus, an essay by Martha Derthick and Paul Quirk entitled "Why the Regulators Chose to Deregulate," a question that few economists would pose, is included. Derthick and Quirk illustrate the idiosyncracies of the regulatory process, concluding that in the cases they examined economic ideas embraced by powerful regulators constituted the "coordinating force in a governmental universe that is normally chaotic" (p. 230). We are told neither why particular ideas proved compelling nor why regulators embraced ideas that others proved able to resist. The approach lacks the means to predict the behavior of regulators.

An alternative to focusing on regulators is to consider the organizational structures within which they operate. Unfortunately, the essays that focus on organization, while presenting a wealth of interesting detail, support James Q. Wilson's (ultimately sympathetic) observation that organization theorists "believe earnestly that [organization] theory . . . must surely tell us something important, but in the last analysis one is not sure that one has learned anything" (p. 359).

Lawrence Friedman's elegant essay argues that legal arrangements "carry all the freight of the social order" (p. 135), and so place constraints on the system that require those seek-

ing benefits at least to be able plausibly to cast their pleas in terms other than naked self interest. Regulation is shaped by forces more complicated than those incorporated into economic models. Analysts are charged "to scoop up as many facts as possible . . . about . . . legal arrangements, even when the facts do not lend themselves to scientific treatment" (p. 135). This advice, echoed by anthropologists Laura and Clair Nader, would be more compelling if coupled with a clear demonstration of insights it generated. Indeed, Friedman's thesis that considerations of morality and fairness embodied in legal rules reduce dramatically the scope for self-interested control of regulation receives a strong if implicit challenge from fellow lawyer Bruce Ackerman later in the volume. Ackerman's call for a constitutional change is based on his view that legal strictures can, but do not now, check the control that special interests exert on the regulatory process. Without a scientific winnowing of the mass of institutional detail surrounding regulation, informed choices among such positions are impossible.

Perhaps the one point on which the contributors could agree is that the economic approach to regulation is far too confining to be useful in the understanding of the determinants of the regulatory policies we do have. Regulation is based on a narrow view of the economic approach. It is as if the economic approach were terminal. The economic analysis is treated as the view that the government is the industries' enemy rather than as an attempt to achieve an equilibrium in political markets. The economic approach is subjected to the standard comparative static methods of economics. Focusing on the constraints which well-organized interest groups place on regulators does not imply that regulation must forever maintain its initial form and effect. Changes in the economic well-being of interest group members change the constraints that regulators face, with predictable changes in regulations over time. Curiously, Peltzman's (1976) pioneering analysis along these lines is ignored completely.

In sum, this volume contains a number of suggestions as to how regulation might better be understood, but few successful demonstrations of the utility of approaches advocated.

The essays can be useful both in helping to formulate the set of constraints under which regulators operate and in cautioning against too ready acceptance of narrow self interest of one or a few groups as the determining factor in policy making. They are less successful in providing guidance for how regulation research should be conducted.

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020 GENERAL ECONOMIC THEORY

Sour grapes: Studies in the subversion of rationality. By JON ELSTER. Paperback reprint. Cambridge, New York and Sydney: Cambridge University Press; Paris: Editions de la Maison des Sciences de l'Homme, [1983] 1985. Pp. viii, 177. \$12.95, paper. ISBN 0-521-31368-6. JEL 86-0352

Economists try to describe human behavior. So do philosophers, anthropologists, sociologists, political scientists, psychologists and social biologists. Some try to set boundaries separating their domains from those of other disciplines, but boundaries are always crossed. Economists have analyzed topics such as voting behavior, crime and its deterrence, and the division of labor by sex, topics that noneconomists claim as their own.

Hirshleifer (1985) provides an excellent review of the invasion by economists of other fields and notes that this invasion has a flip side. "While scientific work in anthropology and sociology and political science and the like will become increasingly indistinguishable from economics, economists will reciprocally have to become aware of how constraining has been their tunnel vision about the nature of man and social interaction" (p. 53).

Indeed, economists are beginning to use knowledge from other fields to explain phenomena that have long been considered puzzling. For example, Thaler and Shefrin (1981) use self-

control to explain why people sometimes restrict their choice set, Akerlof and Dickens (1982) discuss the economic consequences of cognitive dissonance, and Loomes and Sugden (1983) use regret to explain preference reversal.

The assumption that man is rational is at the center of standard models of economics. Elster's book focuses on that assumption and uses findings from other fields to argue that rationality cannot provide an adequate basis for the description of human behavior.

Rationality is a concept with many definitions, and Elster begins by providing his own. He makes a distinction between thin and broad theories of rationality. The thin theory is centered around consistency within a system of desires and beliefs. The broad theory examines both desires and beliefs. Rational desires are formed in an autonomous way, and rational beliefs are grounded in judgment based on the available evidence.

The chapter about rationality serves as an introduction to three chapters about the difficulties in using rationality to describe human behavior. In Chapter 2, Elster argues that it is difficult to reconcile the notions of autonomy and judgment with the fact that some states cannot be willed. For example, the attempt to overcome insomnia by sheer will is an expression of autonomy, yet it is a paradigm of irrational plans.

Elster uses the notion of sour grapes (or cognitive dissonance) as the most prominent example of nonautonomous preferences, and he elaborates on this idea in Chapter 3. The essence of the sour grapes story is that preferences may themselves be shaped by outcomes. The fox bends his judgment and desires to conform to the fact that he cannot reach the grapes.

While Chapters 2 and 3 focus on autonomy, Chapter 4 focuses on biases in the formation of beliefs and in judgment. How can we say that people base their judgment on available evidence, asks Elster, when we know from studies by psychologists that people make systematic errors in inference. And how can we say that judgment is based on available evidence when we know that people engage in self-deception?

Good books stimulate thinking, and I found myself reflecting on the importance of auton-

omy and judgment in explaining human behavior. People frequently abandon autonomy and they suffer from persistent biases in judgment. If autonomy and judgment are the underlying characteristics of rationality, as Elster argues, perhaps people are not rational. But if people are not rational, what are they?

Elster states early in his book that he believes that human behavior reflects maximizing behavior, and he mentions some ideas which might describe observed behavior better than his concept of rationality. One is the Darwin-based idea that maximizing behavior contributes to the survival of a person and his descendants. Elster does not explore the potential of this framework, although it might explain much observed behavior.

Survival seems to depend on a delicate balance between opposing forces. For example, the brain generates pain, but it also soothes pain. Each can be used to excess, and survival depends on a proper balance.

Frustration is generated when a gap exists between what we have and what we want. Frustration, as Elster notes, is a manifestation of autonomy, and it is useful to survival because it propels us to achieve what we want. But what should we do when the achievement of our initial goal turns out to be too costly? Sour grapes rationalization may be a good way to disengage from the pursuit of a hopeless goal. Of course, a balance between frustration and rationalization is needed. Those who always avoid rationalization are likely to become entrapped and "throw good money after bad." Those who make heavy use of rationalization avoid frustration, but they accomplish little.

Elster tries to convince us that the exercise of autonomy and judgment do not characterize much human behavior. He succeeds. More importantly, he leaves us with some ideas about frameworks that might better account for a wide range of human behavior.

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Choosing the right pond: Human behavior and the quest for status. By ROBERT L. FRANK. New York and Oxford: Oxford University Press, 1985. Pp. x, 306. \$22.95. ISBN 0-19-503520-8. JEL 85-0923

Concern about relative standing has been a minor theme, at best, in modern economics. It has been cited occasionally, of course, to address specific issues—Duesenberry's classic analysis of savings being a leading example. But, perhaps because it is associated with traits we find unappealing, most economic analysis ordinarily presumes that agents are atomistic, utility and profit-maximizing entities. Robert Frank's task in this original and provocative book is to demonstrate that concern for status deserves a much more prominent place in our understanding of economic behavior. As he makes clear, recognizing its importance carries significant implications for how we view the role of public policy and the role of government itself.

The first part of the book, illustrating what we mean by concern for status as a determinant of behavior. In chapter 2, evidence is presented from psychology, sociology, and social anthropology that concerns are pervasive. At the most fundamental level, a concern for status is traced to the evolutionary advantage conferred by dominance over one's reference group. Accordingly, defining one's goals and measuring one's achievements against those of others' is well-founded and ingrained, moreover, in a world of incomplete information and imperfect foresight, people tend to set their personal baseline in terms of a local group of peers that is rather narrowly drawn, both in time and place.

Chapters 3, 4, and 5 trace out the implications of the basic proposition that position in local hierarchies matters in a range of economic examples. Concern about status is offered as an explanation for the frequently observed flatness of pay schedules. Earnings based on marginal

productivity are adjusted by market pressures to reflect positive and negative status associated with position in the local income hierarchy. Although other plausible arguments, including risk-aversion on the part of employees and the existence of internal labor markets, have been advanced to interpret this leveling tendency, the author's appeal to status as the determining factor is convincing in settings where uncertainty or firm-specific learning would seem to be a less important characteristic.

In anticipation of broader issues raised later, an argument is also roughed out to suggest how a very large set of individuals with varying skills and tastes for status might sort themselves in equilibrium into the empirically observed pattern of heterogeneous groups. The operative reference group need not be narrow in every case. Frank argues in Chapter 6 that redistributive taxation can be viewed in part as a macro-economic counterpart to the flattened earnings schedule at the firm level in the sense that it reflects an implicit voluntary social contract motivated by similar, fundamental positional concerns.

Clearly, not everyone can be in the top rank. Chapter 7 takes up the problem that striving for position has an inherently illusory aspect. In the absence of cooperation, the divergence between individual and collective self-interest can give rise to significant, pervasive distortions. As we are shown, this is especially the case when the concept of position is extended to encompass the prospective standing of one's heirs and when conspicuous consumption is made part of the process of signalling one's ranking. These distortions include a tendency for people (especially at low income levels) to invest too little in safety, insurance and other risk-reduction measures and too much in "positional goods." Chapter 8 applies these observations to interpret the tendency for savings ratios in cross-sectional samples to rise with income. The role of trade unions in promoting pensions, insurance, safety rules, and paid leave also is presented as a manifestation of implicit cooperation among workers who would otherwise be subject to the negative externalities of the "positional treadmill."

The final four chapters address broader issues related to the nature of the underlying social contract that supports the political economy and

public policy. The observation that much economic behavior is influenced by concern over position, with its attendant negative externalities, opens the way for an effective rebuttal of stylized critiques of the free-market system. Contrary to commonly expressed views of the left, positional concerns are seen to lead workers to accept less individual control of employment conditions, to select less differentiated and personalized service, and to be more prone to "manipulative" advertising—not on account of market failure or exploitation in their conventional senses but precisely because markets for goods and services take into account people's fundamental need for superior position. Similarly, the strict libertarian position that rejects any compromise of individual freedom is also seen to be amiss in that it fails to account for the reciprocal, interactive character of status seeking.

Since positional concerns generate negative side effects for society as a whole, it follows that collective welfare can be improved by some form of joint intervention. In Chapter 11, Frank explores the general issue of the limits to governmental paternalism and develops a generalized unanimity criterion not unlike the rule for a constitutionally authorized voting procedure described by Buchanan and Tullock. The criterion amounts to a simple expected cost-benefit test with a side provision to rule out restrictions that will cause coalitions to break apart. Exceptions are admitted for rules with major adverse consequences; partial restriction through taxation is also considered.

The book concludes with applications to public policy that stress accurate diagnosis of economic problems and the advantage of relying on market forces in any intervention. The basic second-best prescriptive rule still applies: distortions should be treated with measures that counteract the problem most directly. Thus, the author favors a consumption tax on commodities, the consumption of which imposes externalities on others. In antitrust policy, he reminds us that market concentration by itself is not sufficient cause for regulation, as it may largely reflect buyers' preference for low-priced standardized commodities that large-scale firms seem able to produce most efficiently. (No bright-line rule is offered, however, to distinguish cases in which concentration arises, say,

from over-consumption of positional goods or from the more familiar exercise of market power.) A negative income tax, supplemented by government-sponsored employment and transfers in kind, is proposed as the appropriate and efficient means of accomplishing socially desired income transfers.

Taken as a whole, the book raises a number of important questions about human behavior. It is evident that positional concerns will be heightened and most relevant when economic activities and transactions have an all-or-nothing character. Thus, important questions are: To what extent are economic interactions so structured? Secondly, to what extent is it sufficient that economic agents merely *perceive* economic reality in relational terms? Do conclusions depend in an important way on limited rationality—a condition that might be altered by better information? One of the important messages of the book is that the positional aspect of economic activity is endemic and manifest in a surprisingly wide variety of settings. Although some of the applications may seem to stretch the concept, almost all the evidence and examples that the author has marshalled are apt and persuasive. Still, the issue is essentially an empirical matter that invites further research.

Irrespective of the outcome of that inquiry, it is fair to say that this book is a significant contribution and accomplishment. The arguments are original, carefully constructed, and balanced. The material should sensitize readers to a neglected and important aspect of economic behavior, and raise the quality of the public debate on a wide variety of issues. Finally, no review would be complete without its taking note of the book's lively and entertaining style. This book is fun to read—no less so for the author's inclusion of a number of drawings and cartoons from *The New Yorker* and other publications that highlight key points with wit and charm.

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Game-theoretic models of bargaining. Edited by ALVIN E. ROTH. Cambridge, New York and Sydney: Cambridge University Press, 1985. Pp. ix, 390. \$47.50. ISBN 0-521-26757-9. JEL 86-0664

This volume of revised papers, originally presented at a conference held in June 1983 at the University of Pittsburgh, provides an excellent overview of game theoretic bargaining theory. This field studies the type of agreements that rational agents will achieve in bargaining situations. It is composed of two complementary approaches—the axiomatic, or cooperative, and the strategic, or noncooperative. The axiomatic approach consists of specifying a set of axioms, such as efficiency, which the result (or outcome) of bargaining should satisfy, and characterizing the function mapping the set of feasible outcomes into itself that satisfies the axioms (in general, it will be unique). In the strategic approach the detailed structure of the bargaining process (including what the agents know) is written down as a game tree and the equilibria analyzed. Since the axiomatic approach abstracts from the details of the bargaining process, it has the advantage that it is applicable to many bargaining situations. The disadvantage of the axiomatic details of the bargaining process is that the important in the strategic approach but the outcome is often surprisingly minor modeling process, such as who approaches are well represented.

Unfortunately it is not possible to discuss all the papers in this review. In what follows I discuss a subset, concentrating on strategic models since this is the area of most active research.

Robert Wilson discusses various dynamic models that have "reputation" as a state variable. In games with incomplete information, an agent's reputation is the beliefs of the other agents about his private characteristics (or infor-

mation). This notion of reputation has become important in economics and this paper is a valuable survey of the concept in its various incarnations. The paper by Drew Fudenberg, David Levine and Jean Tirole analyzes the following bargaining game: A buyer and a seller negotiate over a price, with the buyer's valuation not known by the seller and offers made sequentially by only the seller. They prove that this game has a unique (sequential) equilibrium. While Gul, Sonnenschein and Wilson (1986) subsequently strengthened this result by showing that in this equilibrium the sequence of price offers is not random, the Fudenberg, Levine and Tirole paper is still well worth reading.

Although the one-sided offer bargaining game (often called a concession game) with the uninformed agent making the offers has a unique outcome, the two-sided offer game does not. The source of the multiplicity is much the same here as it is in the signaling models of Spence (1974) and others. The problem is that the informed agent makes offers that must be interpreted by the other agent. Different methods of interpreting offers give rise to different equilibria. Ariel Rubinstein's paper presents an analysis of different methods of interpretation in a two-sided offer bargaining game where one of the agents has two possible costs of bargaining. Restricting the choice of conjectures when an informed agent makes an out-of-equilibrium move as a means of selecting equilibria is an attractive idea which is the focus of much current work; Rubinstein's paper contains a clear discussion of some of the issues involved. The ideas in this paper apply more generally, not just in bargaining. However, the game Rubinstein analyzes is simple (private information takes only two possible values) and the appropriate restriction on conjectures is not always obvious.

In the papers so far discussed, the rules of bargaining have been exogenously given. In mechanism design, the idea is to design a game form that respects the sovereignty and private information of the agents and whose equilibria satisfy some welfare criterion. Roger Myerson, who has written widely on mechanism design, analyzes the efficient mechanisms for two bargaining problems (one of which is the lemons problem of Akerlof, 1970). Viewing bargaining from a mechanism design perspective can lead

to important insights; for example, private information may make it impossible to guarantee that a bargain will be made if there are gains from trade (i.e., bargaining may be necessarily *ex post* inefficient). However, it can be difficult to separate normative from positive considerations in mechanism design, and in his paper Myerson is perhaps not sufficiently clear on this distinction. In particular, Myerson seems to claim that agents in a bargaining situation would always agree on an efficient mechanism. It is not clear to this reviewer why they necessarily would so agree. Peter Cramton analyzes a sequential mechanism where the *ex post* inefficiency mentioned above appears as delay to agreement. The paper by Kalyan Chatterjee is a survey of models which predict a positive probability of breakdown in bargaining due to incomplete information. William Samuelson's paper addresses the related issue of the efficiency of various methods of assigning property rights in cases involving externalities.

Ken Binmore's contribution studies three person bargaining problems. In particular, the connection between some solution concepts derived from cooperative theory and the equilibria of various extensive form games is examined.

There are also papers on strategic models by Robert Rosenthal (who views reputation as a summary statistic of past behavior), Martin Osborne (who analyzes the role of risk aversion in a simple strategic bargaining model), Alvin Roth (reviewing some of his experimental results), Joel Sobel (who focuses on the burden of proof in a litigation model) and Vincent Crawford (contrasting the theoretical bargaining with the third-party arbitration literatures).

The papers on axiomatic models are by Stef Tijs and Hans Peters (also analyzing the role of risk aversion, but in axiomatic models), William Thomson (surveying results in the axiomatic theory when the number of agents can vary) and Sergiu Hart (discussing recent axiomatizations of solution concepts for multiperson games).

This volume of conference papers is highly recommended. The issues discussed in it are central to economics (what is more fundamental to economics than the bargaining problem?) and the discussion is well worth reading. The only warning is that, by necessity, over half of the papers are highly technical. The nontechnical

papers, however, can be read profitably by all economists.

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General equilibrium analysis: Studies in appraisal. By E. ROY WEINTRAUB. Historical Perspectives on Modern Economics series. Cambridge, New York and Sydney: Cambridge University Press, 1985. Pp. ix, 191. \$24.95. ISBN 0-521-25968-1. JEL 86-0357

On the cover of *General Equilibrium Analysis: Studies in Appraisal* by Roy Weintraub one can read that Weintraub

argues that previous writings on the history and method of general equilibrium theory have been curiously biased and misleading. Weintraub provides a clear and careful presentation of the development of the theory from the 1930s through to the Arrow-Debreu work of the 1950s. This historical analysis is the center of the book.

Without this explicit claim the book could have been viewed as an interesting and entertaining readable account of the overall development of general equilibrium analysis in the period in question. There are many hitherto unpublished anecdotes and quotations from letters that cast an interesting light on the period in question. This is also true for the biographical sketches of the main actors in this period.

However, when one looks at that part of the book which could justify the claim that it offers a "clear and careful presentation of the development of the theory . . ." and is a "historical analysis" the book does not live up to one's expectations. To see why this is so I leave aside the "classroom interludes" I-IV and concentrate on Part II, Chapter 6: The existence of a competitive equilibrium: 1930-1954.

The endpoint of this period is clear; the pub-

lication of two fundamental contributions in *Econometrica*: the paper by Kenneth Arrow and Gérard Debreu (1954) and the other one by Lionel McKenzie (1954). Why the particular date for the beginning of the period, 1930, is chosen is less clear. It is generally agreed upon, that after Walras and before 1954 credit has to be given for the formulation, or solution, of the existence problem of competitive equilibria to Gustav Cassel (1918), Frederik Zeuthen (1932-33), Hans Neisser (1932), Heinrich von Stackelberg (1932-33), Karl Schlesinger (1935) and, in particular, Abraham Wald (1935, 1936a, 1936b). All these names are already mentioned in Arrow-Debreu (1954), Section 6. Less commonly known is, however, the exact content, the importance and originality of these contributions. Those readers who expect Weintraub to give a concise summary and comparison of these contributions will be rather disappointed.

The starting point is Cassel's well-known simplified version of Walras' model of an economy with production. This has r factors of production, n consumption goods, one process of production with fixed coefficients for every consumption good, fixed (price-independent) income distribution, and hence a market demand function which depends only on the prices of consumption goods. To make "Cassel's simplification" more transparent I would have preferred using Wald's

Leçon 20 as a starting point. Cassel's version is actually and/or mathematically

After emphasizing Cassel's *Theoretische Grundlagen* played in popularizing general equilibrium theory, Weintraub mentions the Vienna Colloquium, "and . . . the simplification of the Cassel equations. Yet the essential step—the introduction of slack variables for the factors of production and the complementary slackness conditions—had been made earlier by Zeuthen (1928 and 1932-33) who in this context is mentioned (p. 66) by Weintraub in one sentence in parentheses. The omission of a clear summary of Zeuthen's contribution is inexcusable. The statement on page 115 (first paragraph) by Weintraub does not do justice to Zeuthen and the history of the development of the theory.

Of course we have no reason to doubt Schle-

singer's word that he had heard about Zeuthen's paper only after his presentation in the Colloquium (1935, p. 11, fn. 3). But his claim (p. 12, fn.) that Zeuthen introduced the modifications of the Cassel equations not in connection with the problem of finding an economically meaningful solution is rather difficult to accept. Could he really have misread Zeuthen to that extent?

It is true that Zeuthen did not discuss the existence problem in general. He computed, however, the competitive equilibrium in an example for more than 20 different parameter values (he varied the supply of a factor of production, a production coefficient and the price-elasticity in the demand functions—see Tables 1–3, pp. 7–10, 1932–33; or for more details, 1928, p. 27). For the majority of these parameter values the original Cassel equations would have no economically meaningful or no solution at all. Zeuthen introduced the complementary slackness condition precisely in order to obtain meaningful solutions, i.e., equilibria, in his examples. What other reason could there be? Schlesinger's claim was repeated by Arrow-Debreu (1954) and hence became accepted. ("Indeed, this suggestion [complementary slackness] had already been made by Professor Zeuthen . . . though not in connection with the existence of solutions" p. 288.)

As with Zeuthen's contribution Weintraub does not summarize the papers by Neisser and von Stackelberg, nor does he give the examples they used to show the difficulties in Cassel's equations. This omission is, of course, less serious since, when these authors gave their examples Zeuthen had shown already how the model had to be modified.

Weintraub describes Menger's Colloquium quite eloquently and, in particular, the arrival of Abraham Wald in Vienna. This part of the book is very interesting and many readers will enjoy the quotations and anecdotes. But when the story comes to Wald's existence proof the air becomes thin again. The assumptions of the theorems are stated in full, yet there is no summary of the essential arguments of the proof that would show how these assumptions are used. This is, in my opinion, a serious omission. I assume that many readers would like to know why in Wald's proof (1936a) his famous assumption (6) (i.e., a version of the weak axiom of

revealed preferences for the market demand function) is needed for the existence part of the proof.

Here is another question: What role does the assumption play that the market demand function is invertible? Is this assumption only made since Schlesinger's modification of Cassel's equation is formulated in this (unsatisfactory) way?

In conclusion then this book should not be read as a precise historical analysis of the main developments in general equilibrium analysis in this brief but important period. Nor should the reader expect to find a careful analysis and comparison of the few major papers involved.

However, the less exacting and less specialized reader will find an entertaining and colorful account of a very stimulating period in the development of economic theory.

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030 HISTORY OF ECONOMIC THOUGHT;
METHODOLOGY

Making sense of Marx. By JON ELSTER. Studies in Marxist and Social Theory series. Cambridge, New York and Sydney: Cambridge University Press; Paris: Editions de la Maison des Sciences de l'Homme, 1985. Pp. xv, 556. \$15.95, paper. ISBN 0-521-29705-2.

JEL 86-0671

Jon Elster sets himself the ambitious task of critically reviewing the whole range of Marxist social, political, and economic theory. He brings to this task formidable scholarly resources: a wide acquaintance with Marx' writings; a good technical understanding of important recent developments in general equilibrium and game theories; and an evident desire to read Karl Marx without prejudice. Unfortunately Elster's adherence to a narrow reductionism in the philosophy of knowledge and his inability to recognize reliably the level of Marx' arguments make this book a doubtful and misleading guide to Marx' thought and limit its interest as a contribution to social theory.

Elster begins by stating his adherence to a principle of "methodological individualism", "the doctrine that all social phenomena . . . are in principle explicable in ways that only involve individuals—their properties, their goals, their beliefs and their actions" (p. 5). Elster criticizes as "functionalist" many cases where Marx attributes goals, strategies, or perceptions to groups of people rather than to "individuals." He believes that an explanation of collective action must provide "micro-foundations for the behavior, that is, explain it in terms of the desires and beliefs that enter into the motivation of the individuals participating in it" (p. 16).

This is a poor philosophical starting point for understanding Marx. Elster objects to functionalist explanations of group behavior but not of "individual" behavior. Groups, however, share goals, conceptual frameworks, and means for action, and often act in concert, either spontaneously through their shared evaluation of a situation, or through formal coordination. Fur-

thermore "Individuals'" goals, concepts, and actions are strongly influenced by the existence of groups. Thus it is unclear why explanation should always start at the level of "individuals" (though the problem of understanding the relation between group and individual behavior remains a cogent issue regardless of the starting point). Elster never explains what he means by an "individual." When he offers examples of the kind of "micro-foundations" that he would like to see Marx supply for his "functionalist" explanations, he invokes neoclassical economic equilibrium theory or game theory, theories in which the agents are arbitrarily defined and can be interpreted as organizations (corporations, governments, families, and so forth) rather than as individual people. Marx accepts the commonsense idea that groups, in so far as their members share goals, concepts and means of action, may act functionally. In some cases he feels the need and takes the trouble to investigate the relation between the actions of members of groups and of the groups themselves (as in his analysis of technical change under capitalism), but in many other cases he sees the issue as of secondary interest. Elster's interposition of the arbitrary doctrine of methodological individualism does not help us to understand Marx' . . .

For economists at least satisfactory theory of value and theory of exploitation and contributions of

In his discussion

Elster uncritically tells

originated by Ladislaus von

developed by Michio Morishima and Francis Seton, as expounded by John Roemer. This interpretation of the labor theory of value rests on three premises. First, it regards the labor theory of value as a theory of relative prices of commodities. Second, it requires an imputation of the total labor time of society to the commodities produced. Third, it understands the concept "value of labor-power" in Marx to mean the concrete labor embodied in the commodities workers consume. Elster makes much of the well-known (even to Marx) arguments that these premises lead to contradictions and impasses. The imputation of labor time to individual commodities is not a necessary step in

establishing their relative prices. In the presence of heterogeneous labor (or joint production, a more serious problem Elster neglects) a unique imputation of labor time to commodities may not be possible. Finally, even in the most favorable case where this imputation is unambiguous, the interpretation of the value of labor-power as the labor embodied in what workers consume makes it impossible to regard the total surplus value of the society as arising from the unpaid labor time of workers. Elster, in accepting this interpretation, is led to reject the relevance and coherence of Marx' elaboration of the labor theory of value.

But this line of argument misrepresents Marx' interpretation of the labor theory of value. Marx saw the theory as a way of linking social labor, commodity production and money measures of value at an aggregate level, not in the first instance as a way of determining relative prices. Marx' discussion of "abstract" labor indicates that he did not view the imputation of concrete labor time to different commodities as important in his development of the theory. Although he does refer to the determination of the value of labor-power by the cost of the commodities necessary to reproduce workers at the historically and socially given standard of living, his consistent practice is to define the value of labor-power as the proportion of abstract social labor time workers receive control over in the form of money wages. This definition turns out to be completely consistent with the idea that social surplus value arises from the unpaid labor of workers. Elster has not discovered these important facts in his own reading of Marx, nor has he read the work of Isaac Rubin or Gerard Dumenil that explains these points. (The single footnote to Alain Lipietz' article on this problem shows no understanding of the issues involved.)

Elster's discussion of Marx' theory of exploitation is also unsatisfactory, largely because he allows himself to be misled by Roemer's work into a conceptualization of exploitation that Marx explicitly rejected. Elster says that exploitation "means, fundamentally, working more hours than are needed to produce the goods one consumes" (p. 167). Marx went to great

pains to rebut this concept of exploitation. For example, Marx makes the point in the *Critique of the Gotha Programme* that neither in the initial nor the final phases of socialist society would workers be able to consume goods that contained as much labor as they expended. Elster moves even farther from Marx in putting forward the curious idea that the part of surplus value capitalists invest to increase future production should not be viewed as having been exploited from workers. For Marx exploitation occurs when one class takes control of part of the labor expended by another, regardless of what they do with it. Elster's confusion about the theory of exploitation is puzzling because in his chapter on the Marxist theory of class he states a recognizably Marxian formulation of the problem: "the central relations between classes are the transfer of surplus from below and the exercise of power from above" (p. 341).

Although Elster's discussions of class, the State, and ideology are more satisfactory, extreme caution is indicated in using this book as a guide to or critique of Marx' thought.

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Rivalry and central planning: The socialist calculation debate reconsidered. By DON LAVOIE. Historical Perspectives on Modern Economics series. Cambridge, New York and Sydney: Cambridge University Press, 1985. Pp. x, 208. \$34.50. ISBN 0-521-26449-9.

JEL 86-0367

The central thesis of this book is that the "Great Socialist Debate" of the 1930s has not been resolved, as the traditional view holds, but rather that the Austrian position as first presented by Ludwig von Mises has been grossly misunderstood. From close textual analysis, Mises is shown to have confronted two important paradigms, the Marxian and neoclassical ones. The challenge of Mises, called the *advocatus diaboli* of socialism by Oskar Lange, is not yet answered. Those who have taken up the gauntlet have failed to understand Mises' point, reiterated by Friedrich Hayek, that private property leading to the pursuit of profit in rivalrous markets is necessary for the creation and diffusion of the information required to solve the economic problem of Vilfredo Pareto and Enrico Barone.

To characterize Mises' (1920 German) argument simply:

no private ownership of the means of production implies no markets, no markets implies no "rational" prices for the means of production, consequently, socialism (i.e. nonprivate ownership of the means of production) can not achieve an efficient allocation of resources.

According to Lavoie, the neoclassical school misinterprets Mises' understanding of socialism. In Chapter 2, an ideological link is forged between socialism and central planning by reference to Karl Marx' critique of market anarchy. Chapter 3 argues that Mises agrees with Marx—markets are inherently rivalrous—although he focuses on the way this competitive struggle among agents seeking to maximize their own self interest *searches out and dispenses* the very information necessary to bring about the harmony of Adam Smith's invisible hand.

According to Lavoie, the conventional view of the debate attributes to Barone (1908 Italian) or even Friedrich von Wieser (1899 German) the position that rational allocation under either socialism or capitalism can be separated from

market institutions by considering an algebraic representation of the relative valuations implicit in any scarcity problem. In Chapter 4, Lavoie argues that the participants were misled by the neoclassical view of resource allocation as a "solution" to the "static" problem of Pareto given the three preconditions specified by Barone, i.e., society has a method of choosing among various final products, the primary resource base of the economy is given, and all available methods of transforming resources into final output are known. Borrowing Taylor's "trial and error" example of calculating Barone's relative valuations for the means of production (intermediate goods) given some final output mix, Lange described a detailed system of socialist market simulation in which prices as "terms of alternatives" would be determined.

Conventional interpretation holds that Hayek accepted the theoretical possibility of solving the resource allocation problem without private property but denied its practicality. However, Lavoie contends that Hayek (1940) refined Mises' position on markets as a necessary condition to the discovery and provision of the information assumed to be given in Barone's problem. Hayek restated the need for agents to adjust continuously to changing conditions (the Austrian view that markets are in a state of permanent disequilibrium) and established the crucial role of profit movement in the pricing process.

While I support Mises' arguments and some accounts of the critique in Chapter 6, the market simulation and the market simulation's sovereignty (democratic socialism) and ignoring Lange's case for socialist planning. If the subject matter of the book were only the debate, such an omission might be justified. However, Chapter 6 (pp. 153-58) contains an overview of the Soviet experience with planning that indicates a serious misunderstanding of the goals of socialist planning. Chapter 6 and the following brief conclusion seem somewhat repetitious, stating essentially that a coherent, consistent position was sustained by the Austrians contributors and misunderstood by the others.

Lavoie's use of modern economic theory to

explain the concepts and issues in the debate indicates some misunderstanding of the instrument. For example, *tatōnnement* and *nontatōnnement* processes seem often confused especially when income distribution is discussed. Peter Murrell's (1983) interpretation of the debate using informational economics is clearer. Like Lavoie, Murrell thinks that Mises' argument is more sophisticated than is generally acknowledged; he even shows that Mises was aware of Barone's relative evaluations. Murrell argues that Mises' questions asked from the Austrian perspective of the entrepreneur's role in anticipating and effectuating change were not answered by his critics who heard with the ears of the Walrasian-Paretian-general-equilibrium-welfare economist.

In honoring consumer sovereignty, the market simulation model attempts to embrace one blade of the Marshallian scissors (demand) without building the foundations of the other blade (supply). In order to replicate Marshall's long-run efficient allocation of resources, Lange's managers must be intertemporally omniscient and socially motivated so as not to exploit the value of their knowledge. The strength of this book is its convincing presentation of the issues in the debate from the Austrian perspective using continuous time rather than Marshall's discontinuous runs. However, until we have an intertemporal general equilibrium model of Austrian rivalry or an integration of informational theory (and perhaps contestable markets) with standard neoclassical theory, the "Great Socialist Debate" as characterized here will remain unresolved. Accompanied by Murrell's article, Lavoie's book leads the neoclassical economist to a better understanding of the competing paradigms.

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Marshall, orthodoxy and the professionalisation of economics. By JOHN MALONEY. Cambridge, New York and Sydney: Cambridge University Press, 1985. Pp. x, 278. £25. ISBN 0-521-301-72. JEL 86-0039

Dr. Maloney has written an important book. His subject is a dual one. First, he seeks to explain why the Marshallian orthodoxy gained ascendancy over its rivals (ranging from the historicism of Cunningham to the polemics of Macleod), principally in the period of Marshall's professorship at Cambridge from 1885-1908. Second, he considers not only the ideas themselves but the manner in which they became institutionalized in a professional conventional wisdom by means of new journals, new societies, new degrees and by making the recruitment of new specialists contingent on their having been filtered through the new dogmas. Maloney's book is not just a history of the years of high marginalism but an empirical study of the way in which intellectual revolutions give way to routinization and even ossification. The story is fascinating. It is well-told and written with style and elegance. The reader is barely allowed to recover from, "Marshall the moralist, dressed up as Marshall the economic biologist, egged on Marshall the ordinary citizen to speak out in public" before he is confronted with "To deprive was to deprave but some deprivations depraved more than others" (p. 200).

Maloney clearly has an encyclopaedic knowledge of his period. Not only are we provided with detailed notes on something like 40 British economists of the late nineteenth and early twentieth centuries but we are also treated to their private observations on one another. From Foxwell's correspondence Maloney gleans the rather pathetic reflection that Marshall welcomed assistance in performing the menial academic tasks that the great scholar despised, "but for the people who thus oblige I believe he has in his inner feelings a very honest contempt" (p. 226). A careful study of J. N. Keynes' diaries allows Maloney to point out that Keynes seldom took a daily newspaper;

seems to have been only dimly aware of the agricultural depression of the 1880s; came to see the foundation of the celebrated Economics Tripos as "a time-consuming bore" (p. 63); and never once includes Marshall's name on the lists (referring to a period of over 30 years!) he kept of his dinner-guests. An interview with Sargant Florence, who was in Cambridge for most of Marshall's retirement, produced the information that Florence only once caught a glimpse of the great man (at Kings Cross, it appears) and that Mrs. Marshall was quite capable of intercepting his post, assigning the matters arising to whomsoever she saw fit. Maloney has worked his way through Marshall's notes on something like 200 undergraduate pupils from 1895-1902. He looked up the review in the *News of the World* of 5 May 1900 of Hobson's *The Economics of Distribution*, and is obviously a man who knows his way around *The Grocer's Assistant* for February 1915. One must at least be grateful that no yellowing laundry lists or cancelled season tickets came into his hands.

No less interesting than the anecdotes and the facts, however, are the theoretical insights and the provocative questions. What are the intellectual links between utilitarianism, positivism, marginalism and liberalism? How could "an old gentleman who was never quite sure whether economic theory was impossible or merely undesirable" (p. 9) have been appointed to a Chair of Political Economy and could the same happen in an era of professionalization provided only that the candidate parrot the proper answers in the proper examinations? What are the relationships between social evolutionism, ethical neutrality and welfare economics? These are only some of the branches on which Maloney briefly settles before taking flight for some other part of the forest with which he feels the reader ought to become familiar.

The project is an ambitious one and it is clearly not possible for Maloney to do justice in so short a book to all the authors, evidence and issues with which he is concerned. His coverage is necessarily selective. Some readers will question the disproportionate amount of space that is given to Cunningham as compared with Ashley or Wicksteed; it is never made clear why such lengthy accounts are provided of

fringe figures such as Henry Dunning Macleod ("How did he manage to be quite so out of touch?" p. 133) and John Beattie Crozier ("a magnificently bad economist," p. 137); and Maloney was apparently not engaged by the debates either on policy issues (there is surprisingly little on education, poverty, taxation or pensions, for example) or on macroeconomics (even Hobson's views on underconsumption and unemployment are neglected, giving the rather misleading impression that nothing of significance was said in the age of Marshall on the state of the national economy). Nor does the book attempt international comparisons such as might show how the new paradigm influenced—and was influenced by—intellectual and professional developments abroad. And many will regret that Dr. Maloney does not include a detailed description of why an approach that began with such majestically holistic aspirations so rapidly degenerated into extensive specialization and extreme subdivision of labor. One hopes that Dr. Maloney will return soon to the period and produce further essays to fill the gaps. More generally, thanks to Professor Coats (who appears to have been an abnormally active and enthusiastic supervisor of the original Ph.D. thesis on which this book is based), and now John Maloney, a new topic in British economic history is being brought to the attention of a wider audience.

University of

Towards the management

Treasury and the fiscal policy

1930s. By ROGER MIDDLETON. London and New York: Methuen, 1985. Pp. ix, 244. \$49.95. ISBN 0-416-35830-6. JEL 86-0369

This well-researched study is an extension of Roger Middleton's Ph.D. thesis dealing with British fiscal policy in the 1930s. It constitutes a contribution to the new interpretation of the "Treasury View" of fiscal policy, as less of a pagan dogma retained with great social cost in spite of the contrary urgings of the prophet Keynes, but more of an understandable, if misguided, response by both politicians and administrators to what they perceived to be the main policy problems of the interwar period. The perspective is that of an historian who has

passed many days in the Public Record Office, but who is not afraid to venture into the economics literature, and even to run regressions. The author, however, is primarily concerned with the historical record, and only incidentally with the task of appraising the merits of competing economic theories. The competing theories are presented at a rather simplistic IS-LM level, thus missing the main thrust of the supply-side versus disequilibrium trading disputes about the interwar period currently raging amongst economists; at the technical level a D.W. statistic of 0.97 passes without comment (p. 206). The broader purpose of the study is to "demonstrate to readers that changes in official economic thinking rarely derive from theoretical considerations, though clearly they are informed by them" (p. 1).

The book is well organized. The introductory chapter outlines changing perspectives on the interwar British economy, ranging from the old pessimism, which saw the period as one of low growth, market coordination failures and demand deficiency; the old optimism, which perceived higher growth, more structural change and less demand deficiency; the new optimism which stresses high growth, efficient markets and benefit-induced unemployment; through to the new pessimism which largely preserves the old pessimism in the context of a disequilibrium trading version of Keynesian economics which has a "supply side" (the author's taxonomy is derived from the work of Steve Broadberry). The second chapter summarizes some of the main data on economic life in interwar Britain, discussing some of the accessory constructions which have been placed on the "facts." The following chapter deals with the administrative structure of the Treasury, outlining the major administrative obstacles to proceeding with expansionary demand policies such as those advocated by the Lloyd George platform in the 1929 election. Next is a chapter dealing with the revenue side of the often massaged central government accounts, which concludes that "whilst there was a reluctance to use the tax system in a discriminatory manner, it was firmly accepted within the financial departments that taxation was a potentially important instrument of economic management" (pp. 76-77).

These preliminaries over with, the next four chapters focus on the overall fiscal stance. The

theme of Chapter Five is that "while maintenance of balanced budgets was publicly expressed in terms of adherence to certain economic principles, in fact within government it was political considerations that were paramount" (p. 87). The next chapter outlines budgetary policy over the 1929-1939 decade, pointing out that "it was only with the advent of rearmament that the Treasury was to have recourse to deficit finance" (p. 115). Chapter Seven provides constant employment measures of the fiscal deficit over the 1930s, suggesting extensive changes in the fiscal stance, "a result not of attempts to stabilise activity by fiscal means, but from . . . striving to attain a balanced budget in the face of severe fluctuations in activity . . . and . . . the imperative of rearmament . . . from 1937 onwards" (pp. 134-36). The next chapter discusses the "Treasury View" in detail, arguing that this view did not implicitly assume full employment, as it often alleged; and that the crowding out of private by public expenditures argument against public works programs was based on the adverse psychological effects on financial markets that, it was thought, would ensue from higher government borrowing. The concluding chapter draws parallels between the debates of the 1930s and those of the 1980s: the "earlier episode illustrates clearly the strength of the political-psychological foundations of budgetary orthodoxy, the less than dominant role played by theoretical issues, and the ability of successive governments to avoid any commitment to wholeheartedly combating unemployment" (p. 189).

Overall this is a substantial piece of work which provides an excellent guide to original source material on policy debates in interwar Britain for both economists and historians. The author manages to present the *dramatis personae* to the debates in a manner recognizable in terms of the way their counterparts appear in public in the 1980s. My main reservation concerns the author's broad thesis that political and administrative rather than theoretical considerations dominated official economic thinking during the period. This thesis begs the question of why certain political and administrative considerations were perceived to be important, and does little to rebut Keynes' thesis that politicians and administrators, in such contexts, tend to "distill their frenzy" from some defunct

economist. The politicians and administrators in this volume appear as almost ahistorical characters living in a calm Whitehall or Westminster fishbowl that remained largely undisturbed until the advent of rearmament. The thesis that the "Treasury View" on crowding out was based on "psychological" considerations could also have been more firmly grounded if the author had spelled out the implications of rational expectations in the context of different views about the workings of economic systems.

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040 ECONOMIC HISTORY

From new era to New Deal: Herbert Hoover, the economists, and American economic policy, 1921-1933. By WILLIAM J. BARBER. Historical Perspectives on Modern Economics series. Cambridge, New York and Sydney: Cambridge University Press, 1985. Pp. xii, 237. \$39.50. ISBN 0-521-30526-8.

JEL 86-0677

Herbert Hoover, Republican, had more in common with Jimmy Carter than with Ronald Reagan. Hoover and Carter were competent, optimistic engineers. President Hoover told a delegation seeking a public relief program in June 1930: "Gentlemen, you have come sixty days too late. The depression is over." He was overly optimistic! And yet, as William Barber convinces us, Hoover fought vigorously for public works programs and anticipated Keynes' theory of inadequate aggregate demand and even the liquidity trap. To him the government was lender of last resort. Of all American presidents, he is the only one with slums named for him—the "Hoovervilles." Policies Hoover designed were adopted during Franklin Roosevelt's first 100 days, but he ended his presidency being blamed for the debacle. Ronald Reagan, an optimistic actor, embraced "supply-side economics," a policy set doomed at inception, and led a willing people into the greatest economic decline since the one Hoover *did not* cause. Reagan was on the way to becoming perhaps the most popular president in polled history, a verdict in danger of being overturned by Iran-scum.

Barber provides a detailed account of Hoover's attempts to stabilize the American econ-

omy during his years as secretary of commerce (1921-28) and as president (1929-32) that also assesses the critical influence of his administration on New Deal policies. In so doing, Barber describes the model of a "new economics" to promote economic growth and stability formulated by Hoover and his associates in the 1920s. Barber considers the challenges to and critiques of the model: attempts at stabilization in 1929; Hoover's pre-Keynesian antihoarding campaign; the antithesis in the guise of orthodox neoclassical economic views of policy for 1932; Hoover's official 1932 model; and continuities and discontinuities in the transition to the New Deal.

Hoover, of course, was president before the invention of teflon. But, more than simply bad luck is involved. Most good engineers are very poor actors; most good actors are terrible engineers. I am generalizing, but usually engineers prefer detail and proof to showmanship. Worst of all for the fate of Hoover and Carter, engineers greatly prefer to plan than to sell. (Of course, this broad generalization extends to other roles in society.) As in the Horatio Alger stories of Hoover's time, good fortune depends upon admirable qualities and abundant luck.

The open-minded book will forever presidency and classical economic. Both Hoover and of a small go. Ironically, Hoover new Keynesian or government's agricultural research heroes in Barber's story. Ultimately, Reagan's "supply siders" were rejected by Reagan himself as he pragmatically turned to Keynesianism (including military Keynesianism) at a time when the orthodoxy had come to bury it. Reagan succeeded where Hoover (and Carter) failed because Reagan created his separate reality with optimism, showmanship and idealism; then, he could alter "reality" (when required) with pragmatism. In this regard Reagan is a superconservative Franklin Roosevelt who shares his self-confidence and pragmatism. This helps to explain why FDR is Reagan's favorite president.

Even though Roosevelt belatedly accepted Hoover's proposed public works projects with

a similarly cautious fiscal policy. World War II (military Keynesianism) finally ended the Great Depression. Hoover had attempted to provide easy credit through the RFC (pp. 182-85), but failed to swing the Congress behind him. Roosevelt gained acceptance for the RFC within his initial 100 days. This Hooverian Roosevelt (bolstered by Roosevelt's wartime leadership) became a "great Democrat." Nevertheless, Barber reveals the surprising fact that Hoover had been out of office for five years before Roosevelt "fully reoriented" his sight toward an income and aggregate demand approach to economic policy (p. 194). It is uncommon for pioneers of ideas to gain quick acceptance. The safe path of the great uncoated who want instant recognition is to keep the new ideas secret for a decade.

The discontinuities discussed by Barber probably resulted from political necessity: Roosevelt could not look like a Hoover clone and still gain the support of Democrats in Congress. Barber effectively demolishes the popular—Keynesian and neoclassical—perception of Hoover as a do-nothing president. His failings—which Barber does not address fully—were related not to lack of vision or intelligent planning, but to ineffective political leadership. President Reagan understands what Hoover did not: an effective president points a nation in a clear direction and leads the electorate to understand why that direction is right even when it is wrong. Eventually, this country got much of what it most needed during the 1930s—Hoover's economic policy ideas and Roosevelt's remarkable political talent.

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The great merger movement in American business, 1895-1904. By NAOMI R. LAMOREAUX. Cambridge, New York and Sydney: Cambridge University Press, 1985. Pp. xii, 208. \$29.95. ISBN 0-521-26755-2. JEL 85-0945

Since the first major consolidation of independent business firms in the United States (the creation of the Standard Oil Trust in 1882), mergers have become commonplace. Indeed, they have recently been so much in the news that even nonspecialists are familiar with "greenmail," two-tiered offers, leveraged buy-

outs, poison pills, and with the \$11 billion judgment rendered against Texaco for interfering with a proposed merger between Pennzoil and Getty Oil.

In view of this, it is perhaps surprising to learn that there is no general theory of merger in economics or finance; instead, there is the general presumption among specialists that merger is motivated by a desire to maximize profits, and that it can contribute to this goal in myriad ways. Thus, individual mergers may be explained as attempts to realize economies of scale or of scope, to exert market control, to gain access to capital, and so on. This menu of reasons may be adequate for the explanation of individual cases, but a more general theory of consolidation is required to explain merger "waves," of which there have been four in the last hundred years (including the mid-1980s). Professor Lamoreaux's very important book offers a new general theory of the first consolidation wave (1895-1904), supports that theory with persuasive statistical tests and case studies, and explores the consequences of the mergers.

In the last quarter of the 19th century, modern business firms producing for a national rather than a local or regional market had begun to appear in the United States, but this growth was interrupted by the severe depression of 1893 to 1896. The first major wave of mergers occurred in its wake. Between 1895 and 1897 there were 10 major mergers; in 1898, there were 16; in 1899 there were an astonishing 63; the numbers then began to decline, falling to 4 in 1903. Most of these consolidations were horizontal mergers that resulted in great increases in market power. Such famous and still powerful corporations as U.S. Steel (now USX), International Harvester, and Pittsburgh Plate Glass were products of this wave.

There has been no consensus about the causes of this first merger wave. In general, scholars have not felt that attempts to gain market control played an important part in motivating the mergers. Instead, they have argued that fluctuations in stock market prices and the volume of trading were responsible (Nelson 1959) or that it was the result of attempts to secure efficiency gains, either in access to capital markets (Davis 1966) or to raw-material supplies (Chandler 1977).

Professor Lamoreaux's explanation begins

with the observation that the emerging big businesses of the late 19th century adopted one of two basic business strategies to minimize the adverse effects of competition and of unanticipated fluctuations in demand: either they manufactured small quantities of carefully differentiated, high-quality products, or they mass produced a cheap, homogeneous product. For example, the whiskey industry developed a segment that produced cheap, homogeneous "pure spirits" and a segment that produced high-quality, aged bourbon with a distinctive taste. Similarly, the paper industry divided into two segments, one that produced cheap wood-pulp-based paper and another that produced high-quality rag content paper.

The greatest advantage of product differentiation was that it did not require interfirm collusion. Each manufacturer's market was sufficiently narrow that prices and production could adjust relatively easily to changes in demand. The advantage of the mass production method was lower production costs.

The merger wave of the late 19th century was among firms that had adopted the strategy of producing a cheap, homogeneous product and had invested a great deal of capital in pursuit of this strategy in the 1880s and 1890s. Professor Lamoreaux argues that rabid price competition is more likely (and the benefits of horizontal consolidation are, therefore, greater) among firms for which fixed costs form a high proportion of total costs. Because of primitive accounting practices in the late 19th century, fixed charges would be burdensome only to firms that had recently borrowed to acquire capital. This suggests that in the late 19th century price wars were most likely to occur in highly-capitalized, common-grade-producing industries that had recently experienced a rapid growth followed by a sudden decline.

The author tests this hypothesis with a case study of two branches of the steel industry (of which one segment fit the profile of highly-capitalized common-grade production and the other did not) and with statistical tests of a broad range of industries. Both forms of evidence confirm the hypothesis.

Professor Lamoreaux then explores the consequences of the consolidation movement. In the short run, the consolidated industries were protected from ruinous price wars, as evidenced by their smooth sailing through the rough waters of the Panic of 1907. In the long run, the success of the consolidations at stabilizing prices encouraged entry into the industry, which then made the industry less stable. The only way to forestall this instability was to erect barriers to entry, for example, by vertically integrating to lock up raw material supplies, by patent pooling, or by inducing retailers not to carry rivals' output. Naturally, these actions posed new problems for the antitrust authorities, and Professor Lamoreaux details the connection between these attempts to bar entry and the ferment in antitrust policy before World War I. There is much that is new and interesting in this section (e.g., the discussion of the relationship between the movement for a federal incorporation law and the development of the rule of reason in the Standard Oil case in 1911).

This book is a model of good economic history and of good scholarship. Professor Lamoreaux has beautifully balanced a thorough reading of the history of the period with a plausible economic theory of it. It is a readable and entertaining work that will convince even the most skeptical that this was one of the great merger waves of the 19th century.

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100 Economic Growth; Development; Planning; Fluctuations

110 ECONOMIC GROWTH; DEVELOPMENT; AND PLANNING THEORY AND POLICY

Aufsätze zur Wirtschaftspolitik (Essays on economic policy). By JOSEPH A. SCHUMPETER. Edited by WOLFGANG F. STOLPER AND CHRISTIAN SEIDL. Tübingen: J. C. B. Mohr (Paul Siebeck), 1985. Pp. iii, 378. ISBN 3-16-844970-9.

It has almost become the established view of the oeuvre of Joseph A. Schumpeter that he punctiliously followed his principle, often proclaimed in his own lectures and writings, that an analyst, a theoretician, should sacrifice policy advice to purely academic work. Theoretical efforts should not be contaminated by contact with applied policy design so as not to endanger the *Wertfreiheit* of the former. The Stolper-Seidl collection shows that Schumpeter himself did not find it possible to resist the—after all, very understandable—temptation to violate this precept. Nor did this felicitous flexibility occur at the expense of the quality of economic policy advice: more than that proffered by many other economists is Schumpeter's based on extensive and original analytical work.

It is perhaps a trifle artificial to say (p. 4) that there has been a "gap in the documentation" of Schumpeter's political and economic policy output: that of the years 1916–32. His monetary essays, his two sociological studies "Imperialisms" and "Social Classes") and several others, by no means without references and allusions to current policies and politics, may be found in the three volume Schneider-Siehoff collection (1952–54) and its translations. But it is still true that Schumpeter's essays on Austrian and German politics and policies have not before been published in readily accessible collections. For this volume, which incidentally required considerable and meritorious detective work for the 1916–19 pieces, we are much in the editors' debt.

An instructive introduction of some 50 pages followed by three sections of roughly 100 pages each on fiscal policy, wages and employment policies, and on political subjects (including Schumpeter's financial program for 1919 Austria). While the two earlier sections of the

book establish Schumpeter as an insightful commentator on German economic policies of the 1920s, along lines that could perhaps have been expected of him, the third presents the documentation so far available, and rather recently discovered (Seidl 1982), on Schumpeter as a politician. Thus of special interest biographically, it sheds new light (together with the editors' commentary) on his political ambitions and on his personality. Even now, however, not all biographical puzzles have been solved.

The Austrian National Archives yielded the texts of three World War I confidential memoranda, written at the beginning of 1916 (after a German approach to the Austrian Monarchy for a customs union), at the end of that year (after the succession of Emperor Karl to Francis Joseph) and in April 1917 (the year of the most intensive efforts of the new emperor for a separate Austrian peace). While not addressing them to a particular person, Schumpeter gave them the widest possible circulation within a carefully chosen ("catholic-conservative") circle, principally of the Austrian aristocracy. The memoranda breathe throughout a fervent Austrian monarchical patriotism; they also carry an almost conspiratorial flavor. They aim at an Austrian Restoration, or rather at an imperial reformation, a "tory democracy" (after the English pattern), preceded by the formation of a new conservative party to be carried by the "historic families," the Austrian high nobility. Externally, this meant strict independence from Austria's ally, imperial Germany. It meant peace on Austria's (the ideal intermediary) initiative. It meant rapprochement to the Entente and the maintenance of close relations with the United States (which, though already at war with Germany, had not yet declared war on Austria)—Schumpeter fervently opposed any *Anschluss* which had found support among the German parts of the Monarchy, and any customs arrangement. Internally, it meant a beginning of a settlement of Austria's nationality problems (Karl's coronation at Prague) and a sort of Bismarckian social legislation. Settlement with Hungary, of which Schumpeter was as suspicious as of Germany, was to be postponed. Thus, the three memoranda represent a political program for a Tory revolution, with a new party, a new parliament, a new cabinet, not neglecting extensive efforts to influence

public opinion by forceful action and intensive publicity. Given the stage reached by Austria's history in 1916-17, these memoranda were perhaps a little desperate but by no means utopian and showed a shrewd analysis of social forces. All are argued with Schumpeter's well-known mastery of rhetoric and literary articulateness.

The biographical puzzle, of which the editors are aware but unable to resolve, is how it came about that less than a year after Schumpeter was still promoting his conservative program, we find him (1919) a member of the subcommission for the socialization of the German coal industry, and a month after that the minister of finance of a socialist coalition government in Vienna (the second government of Karl Renner). His principal supporters were two very well established socialists, Rudolf Hilferding and Otto Bauer (who, it seems certain, were ignorant of Schumpeter's wartime memoranda).

Schumpeter had at first been prepared to tolerate, and even to advocate, limited socialization, so long as (as for instance in the German coal case) it promised to raise efficiency and did not burden the budget of the state. But it soon turned out that Bauer's understanding of socialization of the Austrian economy went beyond what Schumpeter had advocated in Berlin and Bauer himself first in Vienna. The resulting clash remained unresolved. Schumpeter had been publicly accused of attempting to sabotage the socialization program by not blocking the sale to Italian interests of a packet of shares in one of the main Austrian mining and steel corporations. On this charge Schumpeter has been exonerated (see his letter to Chancellor Renner, pp. 337-343, and introduction, pp. 27-30).

A more serious disagreement arose over the question of the *Anschluss* to Germany (which had been part of the program of the Renner government), against which Schumpeter intrigued actively. But the peace treaty of St. Germain (July 1919) in effect forbade the *Anschluss*, and Bauer (the foreign minister) resigned (though he remained as head of the Austrian socialization commission).

Even though these two indications of Schumpeter's incompatibility with his cabinet colleagues stirred up a great deal of fuss, inside and outside the press,—and Schumpeter's unconventional personal habits did nothing to calm things—it seems that more solidly eco-

nomie disagreements led to his resignation in October 1919, after only seven months of service. His "Finance Plan," published on the day he resigned, eventually ran into unsurmountable opposition. A major contribution to economic policy at the time, it was a radically conservative stabilization plan for the Austrian economy ("Fundaments for Fiscal Policy for now and the next three years," pp. 345-68). It included a stiff capital levy as the instrument of absorbing the wartime, and inflationary monetary overhang; stabilization of the Austrian foreign exchange rate with a gradual freeing of external transactions; revamping the tax structure so as to encourage private investment and attract foreign funds (i.e., shifting the emphasis from direct to indirect taxes); central bank budget balance with sharp reductions of current outlay and the establishment of a new central with strict prohibition of credit to the government. In a word, a thoroughly modern program, capable of execution only by a very strong government—which the Renner cabinet turned out not to be. This policy plan has only recently received the attention it long deserved, in fact, it might well have served as a model for stabilization programs of the International Monetary Fund.

The essays present parts of the book Schumpeter's to Harvard in 1932 tent undercurrents them can be in mind Schumpeter requirements of successful stages. And all of them can be understood from this point of view—a long-run vista in distinction to, but by no means unavoidably incompatible with, the short-run concerns of much of the English policy literature of that time. This contrast to Cambridge and Keynes has often been pointed out, and the editors do an excellent job in placing the essays in the proper perspective, it needs no further mention here. I would perhaps add only that his basic analytical model lends to Schumpeter's essays a calm, almost resigned patience which markedly contrasts with the turbulent politico-economic developments and disputes of the ten years of pre-Hitler Germany. It is no wonder, therefore, that Schumpeter's dispensation of advice

at times roiled the heated minds of politicians and economists (not excluding some of us fledgling initiates at the university)—on such burning questions as Reparations, tax reform, wage disputes and others.

There is remarkable technical detail in these essays: the analysis of individual types of taxation (sales, or value added, taxes, income taxes, inheritance taxes), one of the few systematic analyses of the role of central vs. local taxation (what in the German is called "Finanzausgleich," pp. 84–98), the limits of wages policy (pp. 192–201), the interpretation of the 1929–32 depression (with special attention to pre-New Deal American policies), etc. When it is kept in mind that the fundamental aim of Schumpeter's policy design was the rebuilding and strengthening of private investment, and of private saving, in interwar Germany, Schumpeter's proposals—pre-Keynesian, or perhaps better, post-Keynesian,—not only show the continuing power of the older verities of fiscal policy and wages policies, but also perhaps a surprising applicability to present-day problems. In this would seem to lie the reason for giving renewed attention to these essays. Schumpeter's strong critique of one-sided wage-push policies ("At length it must, and will, happen that employers and employees will sit down together to negotiate wages, capital formation and tax burdens *uno actu*," p. 41) shows this, as does his opposition to deflationary measures as a cure for the depression of the early 1930s. But these points have been forcefully made by Professor Stolper and require here only an appreciative mention.

What does need pointing out here is Schumpeter's strong belief that the success of economic policy depends critically on whether it is fitted to an adequately receptive historical state of social development, and his intense and—towards the end of the line of essays of the 1920s—increasingly deepening pessimism in respect of the survivability of competitive (classical) capitalism in the Europe of those days. His fear was (as he puts it in a review of Felix Somary's Heidelberg lectures of 1929) that "... the process of transformation which

our industrial constitution experiences more and more approximates—even without all the political interventions—a state of affairs which to call socialism or capitalism is a mere matter of taste" (p. 222). This view, more fully set out later in *Capitalism, Socialism and Democracy* (NY: Harper & Bros., 1942) is well enough known and has often enough been criticized as probably a simplification. Yet, the essays in the present volume show that it is perhaps worthy of wider application.

Were we to attempt to apply the principles of that policy [i.e., that of the late 19th century, e.g., of Miquel, Böhm-Bawerk, Gladstone] to the public finance situation of the Germany of today, we would proceed as someone who had observed a great physician successfully treat a case of cancer and then apply the same treatment to a case of tuberculosis. (p. 67)

The social structure which made the income tax the ideal financial instrument "is past, will never return" (p. 67). To be sure, these are strong pronouncements, especially when followed by

We must realize that social developments cannot be reversed and that a substantial reduction of the sum total of demands on the state is an illusion [to which he appends the footnote] this illusion is dangerous, just for those circles who love it. It leads to a dream life of fiscal policy, a fiscal policy as a great lie—to sham successes and sorry disappointments. (p. 69)

Perhaps too strong, but the whole of this essay on "Fiscal Policy" (1927, pp. 63ff) is worth re-reading. So are the essays on "Fiscal Policy and the Cabinet System" (1927, pp. 70–76) and "Spirit and Technique of Fiscal Administration" (1927, pp. 77–83), both no doubt inspired by his own bitter experience.

To repeat: we are indebted to Professors Stolper and Seidl for presenting us with this collection of essays that sheds light on elements of Schumpeter's work and personality that are not always adequately studied. Finally, a word of congratulation to the publishers is not amiss: they took only little more than three months from manuscript to publication.

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120 COUNTRY STUDIES

Growth, innovation and reform in Eastern Europe. By STANISLAW GOMULKA. Economics of Technological Change series. Madison, WI: University of Wisconsin Press, 1986. Pp. x, 305. \$32.50. ISBN 0-299-10660-8.

JEL 86-0701

The East European and Soviet economies have a recent record fundamentally different from that of the first postwar decades. Their rates of growth are no longer much above the world average, their remarkable domestic stability is mostly gone and they have stopped making progress in catching up with frontier, i.e., Western technology. This rather sudden transformation calls for a fresh look at the overall efficiency of central planning. Stanislaw Gomulka here provides such a perspective, certainly the first extensive treatment of the issue in Soviet and East European studies.

This exciting book is organized into three parts. The first deals primarily with the comparative ability of central planning and the market system to promote technological change; it is mostly speculative in character. The second, basically technical, addresses the gradual deterioration of economic growth, and its primary force, technological progress. The third part discusses the abrupt failure of the import-led policy of modernization adopted by these countries in the early 1970s; it is largely empirical.

The discussion rests on a theory of technological change that relates changes in production to two sets of factors: systemic and nonsystemic variables. With the notable exception of the United States, representing frontier technology, the single most important nonsystemic factor for an economy is the relative gap separating it from the leader. The gap gives the follower an advantage, but certain systemic conditions have to be met to allow catching up to begin; and other, more demanding, conditions have to be satisfied to allow completion of the process. This said, a follower can grow faster than the leader, or indeed than any country that is more technologically advanced.

The main message of the first part is that the central planning machinery is not compatible with rapid technological change. The chief culprit is the soft budget constraints faced by

enterprises. Gomulka here adopts, with important modifications, the concept developed by János Kornai (1980), and widely adopted in comparative economics providing one of the book's best sections. For Kornai excessive use of budgetary financing tends to yield shortages of goods, but Gomulka sees low efficiency as the primary outcome; a statement I feel very comfortable with. Kornai argues that, whether prices are flexible or not, the centrally planned economies will end up with shortages, but Gomulka provides a theoretical proof that with upwardly flexible prices, shortages are avoidable, at least in consumer goods. Still, the question arises whether upward flexible prices are really compatible with central planning in any version. As long as the planners insist on directly allocating investment funds and making decisions on technological variants, it does not make much sense to permit prices of capital equipment to be flexible. Such flexibility will not do much good since managers counting on resene by the planners whenever losses occur, are not very concerned with costs of production anyway. Prices of consumer goods could be raised to achieve equilibrium, but with production plans fixed by the authorities supplies will not necessarily adjust, and with the growth hunger of industry, capital goods will continue to receive higher priority anyway. Keeping prices of consumer goods stable ... compensation for short offer the workers.

Gomulka argues the high degree of communist leader rapid technological only tends to sustain competition, but also ... Furthermore, as long as the satisfaction of material needs is perceived by the majority as inadequate, innovation-conducive forms of economic organization will be desirable. From this it follows that technological change and economic policies must come into conflict. And so they have, even though the communist leadership, in its role as manager of the pursuit of the technological frontier, claims to promote values such as power, efficiency and success.

The second part, particularly illuminating, focuses on the slowdown in Soviet growth since

1961. The many economists who have dealt with this issue can be put in two groups. One claims that the source is the decline in technological progress, with capital playing little or no role (Abram Bergson 1979). The other argues that retardation results from difficulties in substituting capital for labor with the productivity residual remaining stable (Martin Weitzman 1972). Based on econometric tests of these competing hypotheses, Gomulka offers a new interpretation that accepts some of the assumptions made by the two groups but discounts others: many will find it very convincing.

Gomulka's approach departs from the others in that he tests a model with a new specification of the technological progress term. It attempts to capture the growth effects of two phenomena: the postwar recovery trend in technological progress, and changes in the annual number of hours worked. These two factors are variable over time and transitory, and superimposed on the third, constant term, i.e., a long-run trend in technological progress. The two variable factors, as Gomulka demonstrates, may alone have been responsible for the slowdown. Such other potential factors as the branch (i.e., sectoral) composition effect (i.e., related to shifts of labor from low- to high-productivity branches), the age-composition effect, and the diffusion effect (i.e., impact of imports of superior technology) he finds did not contribute to the slowdown, at least prior to 1975.

Nineteen seventy five is claimed to be another critical date in Soviet postwar growth in that the catching-up process virtually stopped. The Soviet economy may now have a so-called equilibrium technological gap, in the sense that, in the absence of serious systemic reforms, its position relative to the technological frontier would tend to remain the same. The book only suggests the above possibility, but Gomulka (1986) in his most recent work finds statistical evidence that Soviet productivity has not advanced on that of the United States for a decade. Even after allowing for characteristic overmanning and underutilization, Soviet technology appears stuck at least twelve years behind the U.S. level since 1975.

The third part of the book asks why western

credits and technology imports have not helped the Soviet Union and East Europe solve some of its economic difficulties over the last decade. Poland is given the most attention here, since its post-1979 collapse seems to provide the best evidence of failure. Gomulka measures the impact of technology imports and finds that they had a strong positive effect on productivity growth (1.5 point increase above the 5.7 percent postwar trend in 1974-1978). But with serious macroeconomic mismanagement, such as excessive wage increases, and lack of systemic reforms to provide incentives for efficient absorption of western machinery, the economy was doomed to accumulate excessive debts and collapse as it did.

My own interpretation (1986) departs from the present one on only one point. While I agree that Poland was fated to end up in a crisis with large debts, I believe that the depth of crisis is related less to the choice of growth strategy than to the regime's inability to institute an adjustment process since 1979. Political factors matter more than economic ones; the leadership does not have enough popularity within the country to mobilize workers, and it is internationally isolated so that badly needed fresh financing is not available (in contrast, Hungary has received IMF help). My guess is that under different political circumstances the Polish crisis could well have been no more severe than Hungary's.

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JEL. 86-0704

The chapters on Taiwan and South Korea reveal important similarities and differences. Scitovsky finds both score well on growth and equity indicators but close scrutiny shows that Taiwan has done better. This follows from differences in implementation rather than in policy aims. "The Taiwanese, . . . unlike the Koreans, . . . have shown great respect for the strength of market forces . . ." (p. 145). Specifically, Taiwan adopted a market-clearing (high) interest-rate policy so that loans have been allocated by price, not by government policy as in South Korea. High rates encouraged the saving and labor-intensive production that in-

creased employment and reduced income inequality. Low rates in South Korea have created excess demand for loans. Loans are rationed, allocated to suit policy goals, and given mainly to large conglomerates with good records. Consequences for employment, income inequality, firm size, market entry, allocative efficiency, saving, and foreign debt have therefore been less favorable in South Korea than in Taiwan.

Though monetary policy may have been "the crucial difference between the two countries . . ." (p. 147), other factors clearly share responsibility for Taiwan's better performance. Lower income inequality, for instance, stems not only from an interest-rate policy that increases labor's national-product share, but also from better rural infrastructure and a more geographically dispersed industry that raise farmers' off-farm earnings. Also, comparison of two countries necessarily emphasizes their differences. If Taiwan and South Korea were compared in a wider context, their similarities would stand out, not their differences.

Among the shared characteristics that distinguish Taiwan and South Korea from other developing countries are their highly successful industrial policies. These are, according to Klein, similar to though not imitative of Japan's industrial policy (p. xiv). If we are to learn from models of development and answer Lau's questions, then it is necessary to focus on common factors like industrial policy that separate Taiwan and Korea from the rest of the developing world rather than on differences between the two countries. Such differences are fascinating, especially to specialists in the field, but it is the similarities that make the model and justify Lau's conclusion in which "it is hoped that this monograph will contribute to our understanding of the process of economic development" (p. 11).

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130 ECONOMIC FLUCTUATIONS; FORECASTING;
STABILIZATION; AND INFLATION

Model reliability. Edited by DAVID A. BELSLEY AND EDWIN KUH. Cambridge, MA and London: MIT Press, 1986. Pp. xiii, 244. \$30.00. ISBN 0-262-02224-9. JEL 86-0710

This volume represents some of the results of a five year interuniversity research project on model reliability. The aim of the project was to foster the development and communication of techniques for assessing the strengths as well as the weaknesses of econometric models. The latter theme has been persistent in the work of David Belsley and Edwin Kuh and many of the contributors to this volume over the past decade. The better understanding and use of such techniques may be an important ingredient in countering the low esteem that is currently accorded econometric research.

There are eight papers in this book, each touching on some aspect of model diagnosis or performance. There is no explicit organizing theme here, nor are new tools introduced: the techniques illustrated in the various contributions have been discussed elsewhere, some of them quite extensively. The chief value of the volume lies in its implicit theme: that the best way to learn about model reliability is to observe the model building and diagnostic approaches of reliable econometricians.

A paper by Clive Granger, R. P. Robins and Rob Engle discusses the specification and estimation of ARCH models. The acronym stands for autoregressive conditional heteroskedasticity and the idea is that the conditional variances of the errors may vary over time. The authors demonstrate that such models extend the notion of Granger causality to variances. The ARCH approach is illustrated with a bivariate model relating wholesale and retail prices. ARCH models are likely to play an important role in econometrics because many important financial and aggregate time series appear to

be best described by models with conditional variances that vary over time.

The analysis of residuals is also the subject of a paper by Jean-Marie Dufour who applies recursive residual analysis to test the stability of a demand for money function during the German Hyperinflation. This procedure is based on an analysis of prediction errors from a model that is estimated recursively. Various test statistics are then applied to these residuals to test for stability over time. Dufour argues that the advantage of this procedure is its exploratory nature: it does not require a precise alternative hypothesis about the nature of the structural instability. Unfortunately that is also a drawback as the power of the test against precise alternatives may be low and because the analysis in this application does not lead to any specific ideas for modeling the instability or improving the model to remove it.

Two papers deal with the use of prior information. Edward Leamer presents an interesting and witty Bayesian analysis of the determinants of inflation. Using a simple IS-LM setup he specifies a dynamic equation for inflation and one for unemployment. He characterizes Keynesian and Monetarist priors and conducts a Bayesian sensitivity analysis to examine the ambiguity in the estimates associated with ambiguity in the prior distribution. There is much to disagree with in Leamer's basic specifications—money is treated as exogenous, dynamics are introduced in a rather ad hoc way—but the beauty of this analysis is that all is laid out for one to see. Nothing is swept under the rug and the interaction of the data with the prior is made clear. The results and the conclusions are well worth reading. A paper by Mark Greene, E. Phillip Howrey and Saul Hymans explores the use of outside information to improve the forecasts from the Michigan Quarterly Econometric Model (MQEM). This is not a Bayesian framework; rather monthly observations on some variables are used to construct a pooled forecast that exhibits lower prediction standard errors than the MQEM forecast.

A paper by David Belsley considers the relationship between centering (measuring

variables in deviations from mean) and first-differencing and conditioning (collinearity) diagnostics. Although centering and first differencing often yield improved conditioning diagnostics, Belsley argues that they are meaningless. His view is that econometric relationships characterized in levels are structurally interpretable while those in terms of differences and deviations are generally not. This idea is at least arguable but the notion of thinking about identification in terms of the structural models of interest is certainly right. Stephen Swartz and Roy Welsch present a very useful survey and illustration of bounded influence regression methods—methods that assign less than equal weight to possible outlying observations—and illustrate some diagnostic tools that can be used with these methods.

The two final papers deal directly with the properties of large econometric models. Ray Fair and Lewis Alexander apply techniques developed by Fair for decomposing forecast error variances into portions due to error term variance, parameter uncertainty and model misspecification. They compare the decomposition of errors for the Fair model and the MQEM. Edwin Kuh, John Neese and Peter Hollinger present and illustrate an interesting method for linearizing and simplifying (reducing the dimensionality of) complicated nonlinear econometric models. The 'representations' of the fact that models are to be sparse and simple. The method is the MQEM.

Many valuable in this collection. That, in many instances, the by application to models and equations that I find incredible and that the authors seem to feel apologetic about. I have much sympathy for Ed Leamer's conclusion that the most productive research program for macromodels is one aimed at honing their theoretical foundations

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Two crises: Latin America and Asia, 1929-38 and 1973-83. By ANGUS MADDISON. Development Centre Studies. Paris: Organization for Economic Co-operation and Development, Development Centre, 1985. Pp. 105. \$14.00, paper. ISBN 92-64-12271-2. JEL 86-0718

During the first half of the 1980s the developing world—and in particular the Latin-American countries—suffered the worst recession since the Great Depression. In fact, the worsening of the terms of trade, drop in production, climb in unemployment, and inability to pay the foreign debt in the 1980s bring to mind the traumatic experiences of the 1930s.

This little book provides a tight and illuminating comparison of the two worst recessions experienced by Latin American and Asian countries in modern times. It originated as part of a project on the interdependence between the OECD and developing nations and is divided into seven chapters that cover both the general features of the two recessions, as well as the individual experiences of six Latin American and five Asian countries—Argentina, Brazil, Chile, Colombia, Cuba, Mexico, China, India, Indonesia, Korea, and Taiwan. In addition, a large number of statistical tables with information pertaining to the most important macroeconomic variables in these countries is provided. The comparison of these two recessive episodes is extremely revealing since it helps us understand how major external shocks are propagated under different institutional and economic structures. Also, the comparison across countries allows a better understanding of the extent to which different domestic policies help to minimize the impact of external shocks affecting small developing nations.

In his analysis of the 1930s in Latin America, Maddison emphasizes the role of monetary policies based on the gold standard in the transmission and magnification of foreign shocks. The initial worsening of the terms of trade resulted in very significant balance-of-payments deficits that generated large reductions in the quantity of money. However, most recent studies of this period, including Maddison's, have failed to point out that in a large number of countries the fiscal policy was equally, if not more, contractionary. At the time, most developing countries relied very heavily on taxes on interna-

tional trade—and in many cases on taxes exports—to finance government expenditure. The crisis, then, greatly reduced government revenues, and since macro policies invariably called for a strictly balanced budget, this implied an equivalent drop in government expenditure, generating additional recessionary forces. In other words, as a consequence of the macro policies the worsening of the terms of trade shifted back both the LM and IS curve.

As Maddison documents, the Latin American countries reacted to the 1930s crisis in different ways. After initially following the "rules of the game," the larger countries abandoned convertibility, and pursued active monetary and macro policies. Although the specific courses of action differed from country to country, an active exchange rate policy was followed by all of them and exchange controls, including import tariffs and quotas, were imposed. These protectionist policies marked the beginning of the import substitution growth strategy that was ardently embraced by most of the countries in the region. In his otherwise lucid analysis the author fails to discuss with sufficient detail the excesses and disappointments of the import substitution approach. Moreover, a shortcoming of his discussion of the 1930s in Latin America is the failure to draw a sharper distinction between macroeconomic and trade restriction policies. Although there is little doubt that the abandonment of convertibility and the implementation of active macro and exchange rate policies was desirable, there is equally no doubt that the imposition of massive controls on trade flows resulted in the creation of an inefficient and capital-intensive manufacturing sector that contributed little to growth and to the creation of employment.

Parts 4-8 of the book deal with the 1970 and 1980s. First, the characteristics and magnitude of the external shocks are analyzed. The author discusses how domestic policies affected economic performance in the different countries. Given the brevity of these chapters it is remarkable that the author is able to convey quite accurately, and in some cases with an impressive level of detail, the main features of these economies.

Perhaps one of the most salient lessons from the 1980s is the importance of exchange rate policies, and the usually staggering costs associ-

ated with overvalued real exchange rates. Four cases are particularly relevant here. First, the disappointing outcome of the Chilean experience with free market policies after 1973 was closely related to the adoption of a fixed nominal exchange rate at the same time as wages were fully indexed to past inflation. These policies, among others, helped generate a major real overvaluation that finally proved to be fatal. In Indonesia and Korea the adoption of an active exchange rate management—including periodic devaluations—were important components in overall strategies aimed at reducing the effects of world economic fluctuations. In that regard Indonesia's exchange rate and macro policies were quite successful as means to combat the Dutch-Disease effects associated with the oil boom. Finally, in Argentina the adoption of a declining preannounced rate of devaluation at a rate that was inconsistent with the magnitude of the fiscal deficit resulted in a loss of credibility in the government's policies and, eventually, in major capital flight.

In these chapters the current international debt problem is discussed. Maddison reminds us that contrary to the 1930s, when a large number of countries defaulted on their debts, in the 1980s we have not really seen defaults. Here the important role of multilateral institutions, and in particular of the IMF, is singled out. However, this discussion does not emphasize sufficiently the very different nature of the debt in the 1930s, when most creditors were bondholders, as opposed to the 1980s when a very large majority of the debt is owed to commercial banks. There is some evidence that, due to the greater degree of cohesion amongst banks than amongst bondholders, defaulting on bank loans entails higher costs than defaulting on foreign bonds (Edwards 1986). This explains, in part, why outright default has not been a real option in the 1980s.

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REFERENCE

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300 Domestic Monetary and Fiscal Theory and Institutions

310 DOMESTIC MONETARY AND FINANCIAL THEORY AND INSTITUTIONS

Monetary conditions for economic recovery.

Edited by CASPAR VAN EWIJK AND J. J. KLANT. Financial and Monetary Policy Studies, vol. 11. Dordrecht, Hingham, MA and Lancaster: Kluwer Academic, Martinus Nijhoff; distributed in the U.S. and Canada by Kluwer Academic, Hingham, MA, 1985. Pp. x, 338. \$48.00. ISBN 90-247-3219-0. JEL 86-0467

This volume is the culmination of an international symposium on monetary conditions for economic recovery held in Amsterdam in November 1984 to honor the retirement of Professor G. A. Kessler from the Faculty of Economics of the University of Amsterdam. The volume consists of the thirteen papers presented at the conference along with an opening address by Willem Duisenberg in honor of Professor Kessler, and an illuminating introduction by Caspar van Ewijk. It is organized in three sections. Part I contains five papers appraising the recent performance of national monetary policies in the United States, Germany, the United Kingdom and the Netherlands, all of them dealing with a wide range of different aspects of monetary policy. Part II, Finally, in Part III, to discussion of monetary policy experience for economic recovery and the course of monetary policy.

The past decade has witnessed a dramatic shift in the way in which central bankers think about monetary policy. As van Ewijk expresses it, "the Keynesian cum Phillips-curve consensus of the late 1960s" was effectively superseded by "the pragmatic monetarist consensus of the early eighties" (p. 6). The major focus of monetary policy changed from active aggregate demand maintenance to fighting inflation. In the latter half of the 1970s, this anti-inflationary emphasis was accompanied by a major innovation in the implementation of monetary policy: the practice of targeting monetary aggregates.

How successful have monetary policy and,

in particular, monetary targeting, been during the "monetarist experiment" of the early eighties? This is one of the main questions posed in the volume and is also an issue that has generated a lively debate in the existing literature. However, the controversy seems somewhat attenuated in the first section of this volume which may be a result of the fact that the authors addressing the problem all have some affiliation with a central bank. Despite the vague suspicion that one may be receiving a less than completely unbiased appraisal, all of these papers provide a valuable summary of the recent evolution of monetary policy in an environment fraught with constraints. Alexandre Lamfalussy sets the stage by describing some of the challenges confronting monetary policy makers in the 1980s such as persistent unemployment, high real interest rates, large U.S. fiscal and external deficits, currency misalignment, and financial deregulation and innovation. The limited ability of monetary policy to solve most of these problems seems to be a recurrent theme. Lamfalussy's main conclusion is that "one should not expect too much of monetary policy" (p. 37) beyond promoting disinflation through medium-term targeting, yet central bankers should follow a policy of practical flexibility in the face of shocks.

Stephen Axilrod provides a broad, informative review of U.S. monetary policy in recent years. He stresses the importance of the October 1979 shift in the Federal Reserve's operating procedures away from being primarily concerned with interest rates towards achieving goals for monetary aggregates. Axilrod points out that this regime change was crucial to increasing the credibility of the Fed's anti-inflation policy thereby reducing inflationary expectations. In his paper on the German experience, Helmut Schlesinger also describes the political and psychological benefits associated with using monetary targets to escape a vicious cycle of inflation and depreciation.

It is well known that the effectiveness of monetary targeting requires money demand to be a stable function of aggregate demand or at least one with well-understood and thus predictable shifts. Another necessary condition is the controllability of the money supply. Both Charles Goodhart, in his comprehensive account of British monetary policy, and Axilrod point to

the problems confronted by monetary authorities caused by episodes of unforeseen shifts in the demand for money or its various components. Goodhart's paper also provides a very good summary of recent developments, such as the removal of credit controls and various financial innovations, that have decreased the control of the money supply in the United Kingdom. In several Western nations, financial deregulation has caused the distinction between monetary and nonmonetary assets to become less clear, presenting central banks with the difficulty of choosing which class of assets to focus on for targeting purposes. M. M. G. Fase describes Dutch experience of using a liquidity ratio as the main indicator of monetary policy. He presents evidence suggesting that if the Netherlands adopted a Divisia Aggregate index as its definition of money for targeting purposes, it could make better allowance for innovations and financial change. Overall, I found Part I to be a valuable summary of the problems confronting monetary policy makers, ranging from unstable velocity of money demand to the rapidly increasing integration of international financial markets.

Part II is devoted to topics of international monetary coordination and is, in my opinion, the most interesting part of the book. It contains an excellent theoretical paper by Willem Buiter on anti-inflationary monetary policy in an open interdependent economy. In the framework of a two-country rational expectations model, Buiter finds that disinflation will entail costs in terms of foregone output and employment, except in the extreme case of perfect, classical, wage and price flexibility. While Buiter's model omits explicit consideration of government decision rules, strategic bargaining, and time-consistency constraints, it does provide several rich results. He finds that the social costs of reducing inflation can be mitigated by combining restrictive monetary policy with the proper mix of government spending and taxation and that, in some cases, international policy coordination can help.

This section also includes an empirical investigation of the European Monetary System's (EMS) experience with coordination by Paul de Grauwe. His paper indicates that although the EMS has reduced exchange rate fluctuations among members, it has not been success-

ful at insulating these countries from high world real interest rates, nor has it improved their growth and investment performance relative to non-EMS countries. Other papers include an analysis of the optimal exchange rate regime for the Netherlands by H. Jager and a description of the role of the International Monetary Fund in world monetary markets by Tom de Vries.

Part III contains four papers on lessons to be drawn from recent experience and implications for the future formulation of monetary policy. This is the first place that debate seemed to emerge. Nicholas Kaldor's paper stressed problems associated with the endogeneity of the stock of money and strongly attacked monetarism. Kaldor considers British and American monetary policy from 1979 to 1982 and concludes that the "monetarist experiment" was a "terrible failure" (p. 260). This section also includes papers by P. Korteweg and G. A. Kessler pertaining to Dutch experience and prospects for the future. The final paper by Emil van Lennep is a broad cross-country assessment of the proper monetary conditions for economic recovery which concludes that monetary policies cannot solve all the world's problems but can continue to contribute to price stability.

In general, this volume does not make major empirical or theoretical breakthroughs. However, it does provide a summary of a remarkable range of economic issues surrounding monetary policy in recent years, to which this review cannot do full justice. It makes a significant contribution in many areas and is likely to be of interest to economists and policy makers interested in theoretical and practical aspects of international monetary policy.

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The economic function of futures markets. By JEFFREY WILLIAMS. Cambridge, New York and Sydney: Cambridge University Press, 1986. Pp. viii, 260. ISBN 0-521-26591-6.

JEL 86-1095

In *The Economic Function of Futures Markets* Jeffrey Williams seeks to reverse the prevailing view that futures markets exist primarily as a response to the need to shift risk (or to hedge). This view is widely held, among both

academics and practitioners. For example, the ability to eliminate price risk through hedging is commonly cited as the chief economic benefit of futures markets. Moreover, the commodity Futures Trading Commission, as a condition for approving new contract (futures) markets, requires proof of a significant hedging demand.

In attempting to replace this theory with his own, Williams has undertaken an ambitious academic project. His book, therefore, will be of interest only to readers who already possess a good deal of knowledge about futures markets, and who have some understanding of the scholarly literature in this area.

The paradigm put forward to replace the prevailing theory is that futures markets exist to serve as implicit loan markets for commodities. Hedgers, rather than attempting to eliminate the risks associated with commodity price fluctuations, really use futures markets to borrow and lend commodities. A short hedger, for example, who makes a spot purchase of a commodity and simultaneously sells a futures contract on that commodity is, in Williams' eyes, simply borrowing the commodity for a fixed period of time (while simultaneously lending money). The hedger's motivation is not a desire to eliminate price risk but to adjust his inventory stock.

A central aspect of Williams' theory is that firms hold inventories for the same reason that individuals hold cash: to avoid transaction costs. Further, the theory implies that commodity stocks are held to avoid price risk, or with volatile prices, by firms that enter into futures contracts (just their stocks do not fluctuate with commodity prices). Firms that hold inventories (or commodities) have a natural incentive for inventory management.

Williams' primary motivation for writing this book is his belief that futures markets exhibit characteristics that cannot be explained by prevailing theories. He contends, first, that empirical studies have demonstrated that futures prices do not exhibit any risk premium; and, second, that spread (price) relationships are highly variable. Without arguing whether he is correct about what empirical studies actually show, it is not true that the portfolio theory of hedging cannot explain these phenomena. In particular, futures prices will exhibit no risk premium when

there is a balance between short and long hedgers. Similarly, the volatility of spreads can be explained by shifts in the balance between long and short hedgers, or by changing risk preferences.

In summary, it is not clear that this book addresses any major deficiency in the prevailing theories of futures markets, or that it provides us with a superior paradigm for understanding their economic role. After finishing the book the reader is still left to ferret out for himself the importance of Williams' analysis. Does adopting the view that futures markets function as implicit loan markets change our understanding of why they exist and how they function to an important degree? Are there, for example, implications about price relationships that cannot be obtained from the prevailing theories? Are there implications about trading volume and open interest, or the volatility of prices, or about which commodities develop successful futures markets? Are there important public policy implications, such as how hedging should be defined and regulated, or what criteria should be used by regulators when deciding on new contract applications? Despite Williams' attempt to draw out some of these implications and to examine them in the context of the competing theories of futures markets (pp. 232-36), it is doubtful that any reader will draw the same conclusion: "... [that] the evidence supports one and only one theory" (p. 236).

Although the book fails to achieve its primary (and, indeed, very ambitious) goal of providing a new theory of futures markets, it may still be of interest to readers who wish to improve their understanding of "spread trading" in futures contracts. The author provides a careful analysis of such trading, as well as of the economic motivations for it. Another attractive feature of the book is Williams' impressive grasp of the historical evolution of futures markets. Finally, the book encourages the reader to rethink some of the fundamental theories and principles of futures markets.

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320 FISCAL THEORY AND POLICY; PUBLIC FINANCE

Untangling the income tax. By DAVID F. BRADFORD. Cambridge, MA and London: Harvard University Press, Committee for Economic Development, 1986. Pp. x, 386. \$29.95. ISBN 0-674-93040-1. JEL 86-0763

David Bradford's *Untangling the Income Tax* is a truly first rate description and analysis of current and recent U.S. tax policy. It is also an excellent introduction to many of the major topics in modern public finance and, as such, will make an excellent supplementary text for courses in public finance. The book is about general issues in tax policy, and, while drawing on recent U.S. tax law changes for purposes of illustration, its contribution for tax analysis is separate from its insights into recent policy choices.

The book is highly readable; Bradford has accomplished the difficult task of writing on taxation in a way that will interest newcomers as well as old hands. Bradford blends together theoretical topics with a range of illustrations and examples. Many of these illustrations and examples will be new even to lawyers and accountants skilled in tax arbitrage.

Another reason the book will be of broad interest is that it examines U.S. federal taxation from two perspectives, that of a pure income tax and that of a pure consumption tax. The first perspective is familiar, the second is not. Since the U.S. tax structure represents a messy mix of income and consumption taxation, it can not be evaluated simply from the standpoint of income taxation. From that standpoint, for example, some features of the U.S. tax code, such as IRAs, may appear as unjustifiable aberrations, while from the perspective of a pure consumption tax they follow naturally. To my knowledge, this is the first book really to clarify the true nature of the U.S. tax structure and to compare the advantages of moving closer to a pure income tax with those of moving closer to a pure consumption tax.

The book begins by clarifying the differences between income and consumption taxation. It

also points out that the consumption tax can be imposed in a variety of ways, either explicitly through value added or retail sales taxes or implicitly by taxing income less investment; i.e., taxing income, but also allowing a deduction for new investment. The distinction between real economic outcomes and accounting labels is further examined in the second section of the book in which Bradford considers tax incidence. This section also considers tax distortions, saving and investment incentives, and tax simplicity. These topics provide a basis for critically comparing an income tax with a consumption tax and for evaluating the U.S. tax code. Such analysis is conducted in the course of presenting these topics as well as in the final section that deals with particular tax reform proposals.

The book is comprehensive and, consequently, long. The reader will find detailed discussions of what may be called major/minor issues such as the tax treatment of durables, the treatment of capital gains, depreciation, and the interaction of inflation and taxation. Bradford moves from one issue to another in a fluid manner, but in becoming engrossed in the subjects one has occasionally to stop to think how each of the pieces relates to the main puzzle. In addition to a few more connecting paragraphs I would also have preferred that Bradford take a stronger position supporting his preferred tax reform. I think this would have helped better to focus the book, but it would have distracted from its scholarly and objective approach.

In sum, this is a book that I highly recommend to undergraduate and graduate public finance students, to tax scholars, and to tax practitioners.

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[PEACOCK, ALAN] *Public choice, public finance and public policy: Essays in honour of Alan Peacock*. Edited by DAVID GREENAWAY AND G. K. SHAW. Oxford and New York: Blackwell, 1985. Pp. xi, 219. \$45.00. ISBN 0-631-14313-0. JEL 86-0144

The dozen papers collected in this festschrift reflect the honoree's diversity of interests, united by a concern with applied economics and public policy. Many of the papers are brief surveys of an area of public sector economics

or political economy. These surveys are technically undemanding and appear to have been written with the nonspecialist in mind. Those familiar with the subject matter of the survey area will find little that is new here, but the general reader may well profit from the quick overviews these essays provide. The volume also contains several research papers, though most of these also have an emphasis on exposition and synthesis.

Richard Musgrave traces the development of three strands of thought relating the philosophy of social justice to the redistributive role of the public sector. These include Locke's theory of entitlement based on natural law; utilitarianism and its "new welfare economics" reformulation; and the notion of justice as fairness, as currently associated with the work of John Rawls. Each of these ultimately runs into difficulty in dealing with some aspect of application (e.g., Lockeanism has problems with the role of income from capital or inherited wealth). Nonetheless, Musgrave argues that cogent public policy must ultimately be based on a set of ethical judgments that cannot be derived from economic reasoning alone. This is of course correct. But it is unlikely that the polity of a complex society will long be in agreement on the merits of redistributive policy, or on the merits of progressive taxation, or on the merits of a recent retreat from

In another survey, Blaug discusses the development of the public sector at the development of the public sector, about marginal cost pricing, and applies to regulation. He also discusses the role of most of the theoretical issues. He makes a forceful argument in favor of returning at least the spirit of marginal cost pricing in public policy. He views this spirit to be, in essence, the economist's insistence that efficiency considerations be accorded a serious place in the policy debate. In a political arena that is often driven by redistributive contests, Blaug sees the economist as "a special custodian for society of the efficiency view of economic problems, because all the evidence suggests that, if economists do not draw attention to the trade-off between efficiency and equity, no one else will" (p. 27).

A brief introduction to the economic theory of public sector bureaucracy is provided by Charles Rowley and Robert Elgin. The central feature of the organizations of interest is that

"profit" (or the difference between revenue and cost) cannot be directly appropriated as income by employees or "owners." Moreover, they are subject to review and control by political institutions. The main concern of this literature is not so much the internal workings of these bureaucracies. Instead, the focus is on how the special constraints and incentives they face affect their economic choices (inputs, outputs, and—sometimes—prices).

For those who are unfamiliar with the standard works in the area, particularly the writings of Niskanen, this is a useful primer. Rowley and Elgin do a good job of stating the central assumptions and results of the various models and discussing their shortcomings. They make an argument for shifting the analytical framework away from the style of the models they discuss, towards a principal-agent theory of the connections between legislative bodies and the public sector bureaucracies. This is indeed the direction of much current research.

A quick glance at the behavior of international agencies is provided by John Williamson. Based largely on his experiences at the International Monetary Fund, he conjectures that at least some international bureaucracies are "presumptively wise rather than presumptively self-seeking" (p. 168). By this he means that they are more likely to make technocratically-based decisions than to be motivated by narrow bureaucratic or political concerns. Specifically, in the case of the IMF and possibly the World Bank and OECD as well, he argues that technically sound economic arguments have considerable force because they are judged for the most part by other economists. Moreover, the political goals of any single government are unlikely to dominate agency goals.

Williamson does not provide an analytical framework whereby his conjecture can be tested, but his claim points to an intriguing research agenda. I do not know whether international agencies do indeed make "better" economic decisions than domestic ones. Certainly, the two types of agencies face quite different environments. I find it instructive, however, that similar claims have been made about *their* agencies by economists who have worked at domestic U.S. bureaucracies such as the Civil Aeronautics Board, the Interstate Commerce Commission, and the Federal Trade Commis-

sion. It seems that once a sufficient number of economists were appointed to these agencies, economic rationality began to take the upper hand, and policy making became more reasoned and less prone to the push and pull of political interests! Hence the deregulation of surface transportation and telecommunications, and the retreat from antitrust activism.

Other surveys are provided by Maurice Peston on macroeconomic policy effectiveness and by Herbert Giersch on the relationship between exchange rate movements and economic development. Francesco Forte uses results from the theory of social choice to analyze the voting rules of decision-making bodies of the European Economic Community. There are also papers on the economics of the performing arts (Hilda and William Baumol); the use of forced loans as a policy to induce saving (Anibal Cavaco-Silva); on whether having taken economics courses in secondary school improves performance in beginning university economics (it does, at least in the U.K., according to Keith Lusden and Alex Scott); and two papers on recent developments in the British welfare state (by Alan Williams and by Thomas Wilson).

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400 International Economics

420 TRADE RELATIONS; COMMERCIAL POLICY; INTERNATIONAL ECONOMIC INTEGRATION

Economic policy in an interdependent world: Essays in world economics. By RICHARD N. COOPER. Cambridge, MA and London: MIT Press, 1986. Pp. xii, 340. \$27.50. ISBN 0-262-03113-2. JEL 86-0781

This volume brings together eleven essays first published between 1971 and 1985. They focus on problems of formulating macroeconomic policy in an environment where labor and capital are increasingly mobile across national boundaries, and the economy is subject to shock by external economic forces. The analytical framework is for the most part that of a demand-driven macroeconomic model, with foreign trade in goods and securities. Inflation is explained either by the reaction of economic agents to external increases in the prices of raw

material imports, or as the effect of increases in the price of foreign exchange on the domestic price level. There is no attempt to integrate theories of domestically originated inflation into the analysis, and indeed, inflation does not even receive an index citation!

The author's perspective is that of a rational, publicly spirited civil servant, prescribing policies of economic stabilization through techniques of demand management, monetary policy, and occasionally direct control. The domestic economy is destabilized by the random, irrational, or perverse actions of private individuals, corporations, and foreign governments. It must be stabilized by government, despite the frustrations imposed by the openness of the international capital markets. There is no sympathy for the view that the U.S. government is itself a chief source of economic destabilization, and little attention paid to examples such as the financing of the Vietnam war or Nixon's 1971 New Economic Policy. Indeed the author suggests (p. 68, n. 9) he may have originated the term "locomotive theory," which is a rationalization of a Carter Administration inspired macro shock of the late 1970s.

Where the essays shine is in the author's command of policy issues and the problems of formulating coherent structures of economic alternatives under the short-run constraints necessary for decision making. A good example of this capacity for creating a coherent structure is the essay "Global Economic Policy in a World of Energy Shortage," written in 1980, just a year before the collapse of the world energy market and the marked decline of inflation in the U.S. It reflects the authors' experiences as an Undersecretary of State for Economic Affairs in the Carter Administration. He presents an insightful description of the macro effects of OPEC's price policies on the global economy, and the lessons learned in reacting to its destabilizing influence on the payments balances of oil importing countries.

The essay is also an example of the weaknesses inherent in much of the policy formulation of the period. It treats inflation as an act of the Ayatollah (not the chairman of the Federal Reserve), and argues for an active energy policy, for without it, we will have "higher-than-necessary rates of inflation and lower-than-desirable rates of growth" (p. 67).

Many of the essays belong on a reading list, for their clear analysis and synthesis of significant historic events. These include "Managing Risks in the International Economic System" (1981), "Monetary Theory and Policy in an Open Economy" (1976), "An Analysis of Currency Devaluation in Developing Countries" (1971), "Economic Interdependence and Coordination of Economic Policies" (1985), and a paper written jointly with Jeffrey Sachs, "Borrowing Abroad: The Debtor's Perspective" (1984).

The last-mentioned essay is noteworthy for the lucid combination of theorizing and policy conclusions, all relevant to the current stalemate between international borrowers and lenders. The first part of the essay is an original analysis of the incentives and costs of debt repudiation. A Nash-equilibrium framework is employed to solve for a payoff schedule in which the fraction of the debt repaid depends on the creditor's ability to impose penalties on the debtor including the seizure of assets. The analysis then proceeds to study optimal borrowing choice with and without liquidity and repudiation risks. The presence of such risks is cited for the inability or unwillingness of debtor countries to acquire as much debt as they would like to be serviced.⁶ The inquiry then turns to the externality of the presence of such risks with strong but only partial internalization.

In many cases, the decision is made by an individual agent rather than by the government regarding the credit worthiness of a country as a whole. Most potential creditors are unable to discern the ultimate causes of a default and, in particular, whether the action reflects the weakness of a particular debtor or is instead a signal about government policy and economic health in the whole debtor economy.

The implications of this spillover are immediate. First, governments—even the most *laissez faire*—must assume some responsibility for honoring the external obligations of bankrupt firms in the private sector. Second, creditors act on the expectation of such actions, and indeed may withdraw credits from countries when such actions are not forthcoming. Naturally, therefore, a government must at the minimum undertake the prudential supervision of private-sector foreign borrowing in order to safeguard the economy's international creditworthiness. In some cases, it may be necessary to make government

backing explicit to facilitate the appropriate levels of inflow. (p. 258)

In other words, a free capital market, left unsupervised, will produce too low a level of borrowing. A number of comments are suggested: First, some borrowing countries may have placed *excessive* reliance on debt as the vehicle for capital importation because of restrictions on foreign equity investment. In these cases, the screening mechanism called for is already in place and is the source of an overreliance on debt, not the solution to the externality identified by the authors. Governments of underdeveloped debtor countries rarely need an excuse to monitor the investment or borrowing policies of private entities that are large enough to be considered credit-worthy in the international capital market. The need is to relax government supervision, eliminate the opportunities for rent gathering, and prevent government guarantees that transfer wealth from the country's taxpayers to its foreign creditors. Secondly, the conclusion ignores the likelihood that large scale defaults (debt rescheduling) in a developing debtor country are the result of government policy, and that the chief defaulters are likely to be government-owned corporations. The analysis thus overstates the problem of reading obscure signals of future government policy. Finally, I wonder whether the authors would extend their prescription to the management of our own economy, now that it is promising to emerge as the world's largest international debtor.

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Structural conflict: The Third World against global liberalism. By STEPHEN D. KRASNER. Studies in International Political Economy. Berkeley and London: University of California Press, 1985. Pp. ix, 363. \$24.95, cloth; \$8.95, paper. ISBN 0-520-05478-4, pbk.

JEL 86-0501

In this book Professor Stephen D. Krasner applies a novel approach to analyze North-South relations. He terms the received view "economistic," which allegedly explains conflicts between the North and the South in terms of the latter's slow economic growth, poverty and ignorance and which presumably sees

Third World behaviors being motivated by economic gain. Krasner challenges this approach, instead characterizing North-South conflicts in terms of the profound disparities of power and wealth between the industrial nations and the Third World states. The book consists of three main parts. The first part develops the argument. The second discusses a number of issue areas while the last part contains a lengthy analytic conclusion with prescriptions for Northern policy.

Krasner traces the development of present North-South relations to the post World War II situation when the major powers established the United Nations and endorsed the principle of sovereignty. This development led to the creation of more than seventy-five sovereign states and the one-country/one-vote system at most international forums. Domestically, most of these states are limited in material resources, weak in their social and political structure, and as a result, are vulnerable to external threats. But collectively, they are capable at these forums of challenging the prevailing norms of the international system.

The book is a useful contribution to understanding North-South relations. It explicates in great detail the perspective of viewing Third World behaviors in terms of their attempt to manipulate the rules of the game in international relations. According to Krasner, the conflict between the North and the South is essentially one between regimes; he defines a regime as a set of principles, norms, rules and decision-making procedures which coordinate behavior, and around which actor expectations converge (p. 60). As a whole, the North upholds a regime of "liberal, market-oriented principles" while the South advocates an antimarket "authoritative" regime. The Third World countries reject the market-oriented regime because they are painfully aware of their weak positions in the international system and of their vulnerability to external shocks and pressures. On the other hand, an authoritative regime would enable these countries to reap both wealth and control. Krasner believes this framework better explains the strivings of Third World nations toward a new economic order and their willingness at times to sacrifice wealth for control. He substantiates this thesis with case studies of the international regimes affecting international fi-

nancial institutions, multinational corporations, the global commons (Antarctica and the Oceans), and transportation. Since weakness and vulnerability will persistently characterize these Third World countries, Krasner also sees the North-South conflict as inevitable and hence the title of the book, *Structural Conflict*.

But the analysis of Third World behavior at the abstract level of regime choice is not without its risk and cost. Krasner has to dismiss a number of important exceptions or counterexamples. Countries such as China and India with their huge populations and territories are excluded from the generalization. Small prospering states like Hong Kong, South Korea, Taiwan and Singapore which rely heavily on the market mechanism and on symbiotic relations with the industrial world are lightly treated. No convincing analysis is given as to why other Third World countries could not emulate such success. As a matter of fact, the latter countries that Krasner takes as exceptions are precisely those that have gotten out of their weak position partly because they have adopted the market mechanism to a far greater degree than other Third World countries.

Nor does the adoption of the authoritarian regime explain all Third World behavior. In the international regime for shipping, the Third World quest for restructuring the flags of convenience system is resisted by Liberia and Panama out of sheer self-interest (p. 224). Chile and Argentina, which both have sovereignty claims with regard to Antarctica, are adamantly opposed to having the region placed under the common heritage rubric (p. 261).

Perhaps the most serious challenge to Krasner's thesis is that it is cast in essentially "rationalistic" terms, thereby lacking a "micropolitical" foundation. Clearly, there are other important factors that might explain the behavior of Third World countries, e.g., conference diplomacy tactics, the sociology of Third World representatives at international forums, group politics that prevail among Third World leaders, the private benefits an authoritative regime might confer on the generally corrupt bureaucracy of Third World governments, Soviet agitation, etc. Apparently eager to take Third World claims at their face value, Krasner gives little credit to a wide array of real-life factors that

might also account for Third World behavior at international conferences.

Krasner does not stop at expounding the thesis of regime conflict. He attempts at times to elevate the discussion into a paradigmatic debate between the "economistic" and his "realist" reading of North-South relations. While one could readily be in agreement with his challenge of "economistic" interpretations which ignore the role of power, the state, etc., one could hardly subscribe unequivocally to his alternative built largely upon the ex post rationalization of different cases with definite and known exceptions. Without offering a viable alternative, Krasner is open to the charge of setting up a straw man against which he does not seem to have the resources to compete. Since he, too, acknowledges, at a point, that "most aspects of North-South relations are consistent with both modified realist and economistic interpretations" (p. 313), it is doubtful if the distinction serves any useful purpose.

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430 BALANCE OF PAYMENTS: INTERNATIONAL FINANCE

*The IMF policy paradox
of stabilization
economic dev.*

DAVID. New York:
Routledge and Kegan Paul,
1980. \$34.95. 181 p.

The appropriateness of stabilization policies for developing countries is examined by Wilfred L. David in his new book. His concern is that these policies, which evolved from a concern with macroeconomic stabilization, and are based as he sees it on a philosophy biased towards market-oriented solutions and against public sector involvement, are inherently incapable of solving developing country problems. Indeed, incompatibilities between short-term liquidity-payments balance policies and long-term structural-developmental policies predate the founding of the IMF and World Bank and help explain the original allocations of responsibilities to the new organizations.

Professor David sympathizes with the complex problems faced by smaller developing

countries and is highly critical of the inflexibility of IMF lending policies in addressing these complexities. He feels that this inflexibility is explained by the theoretical framework within which IMF functionaries work; this latter he describes as the "orthodox paradigm," the result of the theoretical backgrounds of IMF policy makers. To establish the existence of this paradigm he develops a general taxonomy of the assumptions, methods, major conclusions, and resulting implications of the Radical-Heterodox, Neo-Keynesian, Keynesian, Neoclassical, and Monetarist-New Classical schools (his categorization). He notes that, in spite of the diversity of these schools, strong elements of commonality exist in their views on the desirability of efficient resource allocation and the dependence of economic growth on the extent and speed of capital accumulation, with each of the latter dependent on freely functioning national and international markets.

The author next moves to an exposition of demand management policies, development and growth processes, and monetarist perspectives on these policies and processes, always being careful to relate his discussion to conditions in a developmental context. Here he develops a very useful schema for classifying and analyzing the impact of various macroeconomic theories and their related policy recommendations on developing economies. His next concern is with recent trends towards still greater emphasis on market-oriented decision making in the international sphere. He cites and discusses the economic evidence on the impact of exchange rate and interest rate policies in developing economies, and, while fair in his presentation of theories underlying "the new orthodoxy of trade and financial liberation," he finds that these policies are based on theories that generally assume conditions not relevant to the developing countries.

Professor David attempts several tasks in his short critique, some of which, while very interesting, are peripheral to his main concerns. His attempt (noted above) to provide a general taxonomy of economic characteristics and relevant policy conclusions of major economic schools is in this category. His ongoing evaluation of general relationships between short-term stabilization/adjustment and long-term adaptation/developmental policies is much more success-

ful, although repetitive and lacking somewhat in organization. Least successful is his evaluation of the respective roles of states and the private sector in developmental policy. What is desperately needed is a classification and evaluation of contributions and potential contributions to resolution or amelioration of the DC's problems. The adaptations made by the IMF to the special needs of the DCs are recognized by David; however, he spends little time on them, seeing them as pragmatic responses within the umbrella of the paradigm, with little potential for success due to the accumulation of developing country debt and the relatively recent swing to stricter application of market-oriented performance criteria. Left unexamined by this study are truly innovative proposals to ameliorate the international debt problem, such as regional, sectoral or functional economic integration, IMF (or other agency) sponsorship of pooled and centrally-managed reserves, and even SDR creation linked to reserve needs.

One may sympathize with David's position and even agree that the new U.S. initiative to stimulate flows of adjustment financing to the DCs does not represent a significant departure from past policy, and that much more innovative solutions are in order. But a critique of *The IMF Policy Paradigm* should offer some recommendations for change.

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External debt rescheduling. By ROLAND PLAN. Law, Economics and International Trade series, vol. 8. Vienna: Manzsche, 1985. Pp. x, 276. Paper. ISBN 3-214-065572.

JEL 86-0799

Roland Plan has contributed a useful volume on *External Debt Rescheduling*. For the practitioner involved in the many rescheduling exercises, it summarizes in thoughtful fashion the great diversity of experience of recent years. Even those engaged steadily in these exercises tend to know well those cases in which they participate and know less systematically the many other cases. It is helpful to them to read a thoughtful summary of the entire process and experience. For those who have not been involved in the cases of Poland and Mexico, the more detailed case studies on these countries will be particularly welcomed. For the student

of international economics and finance, it will provide the needed background for understanding what has been happening in external debt rescheduling. Much has happened since the volume was completed, but this does not diminish its usefulness.

The volume approaches the many issues in external debt rescheduling with a focus on the lending institutions. The selection of topics for detailed review and issues such as the distinction between "country risk" and "sovereign risk" and the consequences of debt rescheduling are essentially how they appear to lending institutions. It examined, for example, the implications of debt restructuring for balance sheets or regulatory rules. In this respect the book follows the conventional wisdom of the last decade. Everywhere the external debt problems of developing countries have been viewed as important and urgent because they seemed to threaten major financial institutions and, through the domino effect, the international banking system. Efforts to define the external debt crises as a crisis of development or developing countries were given polite attention only. Analysts and practitioners followed the media in reveling in "what if," worst case scenarios with consequent horror stories of international financial collapses that translated into major bank failures especially in the United States. Development economists and officials gave more attention to conditions in developing countries, but also used the "what if," worst case scenarios to bolster the more traditional arguments for development assistance. Adjustment programs were rationalized on the grounds that IMF approvals were needed to obtain favorable debt restructuring from the creditor banks and new money from official and private sources. Many commercial banks reacted to the events and analyses of recent years by withdrawing from lending to Latin America and other countries, thus dispersing the international financial crisis. I believe this withdrawal was shortsighted and reflects an inadequate appreciation of the borrowing national economies taken separately, or the global economy as a whole.

Having been in bright lights and strident publicity for years, the public expects the external debt problem to be presented as a Greek tragedy with valiant efforts to prevent the other-

wise inevitable disastrous doom. It is not enough to summarize, as Roland Plan does, the suggestions of others and to make rather mild suggestions like proceeding on a case-by-case basis and linking a country's financial obligations to its export performance. A jaded public needs lurid tales to hold its attention. I fear this may also be true of academic readers. I hope not, because Plan's book merits attention.

Plan's volume emphasizes what has happened. Whatever happens in the future will be highly conditioned by the events he describes. Those seeking novelty and thrills would do well to read this book to ensure that what they think and propose has the benefit of historical experience. If they do, they may well find it necessary to go more deeply into historical experience, but now fortified by the knowledge and systematic thinking contained in the book. I hope Plan will not lose his interest in developing countries, but will go on to explore deeply the many areas of international capital movements that await the serious student.

IRVING S. FRIEDMAN

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440 INTERNATIONAL INVESTMENT AND FOREIGN AID

External debt in Latin America: policies and remedies, ROBERT F. CHIL, Boulder, CO., the United Nations for Latin America. Pp. viii, 125.

Bank lending to Latin America has trickled after the middle of 1982, following Mexico's by now well-publicized payments difficulties. The ECLAAC study, prepared in 1984, is part of the flood of literature examining the debt problem. In analyzing the debt crisis and early efforts at its resolution, the book emphasizes three aspects: external shocks, domestic adjustment policies, and banks' lending decisions and the renegotiation process.

The study opens with various statistics on the external environment and the Latin American balance of payments. It cites slow growth in the industrial countries, protectionism, a deterioration in the terms of trade for nonoil de-

veloping countries, and the high cost of credit as the external factors causing the crisis. Nonetheless, the day of reckoning might have been postponed had the inflow of funds not dried up—much of the new lending since 1982 has only covered interest payments on old loans.

Next the study cites four domestic causes of the debt problem. First is the decision to pursue a strategy of using foreign funds to fuel domestic economic growth. Second is the rapid and contemporaneous increase in domestic expenditures. Third is the unexpectedly slow progress toward stabilization that exchange rate policies yielded. Finally, the liberalization of domestic financial markets interacted with these other factors to generate high real interest rates.

The authors follow with a discussion of the renegotiations. As is well known, the spread on loans (that is, the markup over the banks' cost of funds, as measured by the prime rate or the bid rate on Eurodollars) increased after 1982 for virtually all Latin countries. This caused great handwringing. But it is at this point that one sees how rapidly studies of the debt problem become dated. Even at the time this study was written countries were gradually extracting better terms from banks: lower spreads, longer grace periods, and longer maturities on renegotiated loans. Regardless of their ability or willingness to pay, countries only had to show up for the rescheduling "game" to garner better terms. Further concessions have since been made, including concessions on the amount of new loans, although banks remain reluctant to provide new loans in excess of the interest payments due. The Mexican negotiations of 1986 almost shattered that barrier.

The authors conclude that adjustment and debt renegotiation were very costly, citing a fall in imports and domestic growth without any improvement in inflation, while the cost of financing increased even as the amount of new funds available decreased. They then go on to offer policy recommendations, which seem to point in the right direction. They acknowledge that fiscal and monetary policies were too expansionary, and that greater efforts must be made to export. But other suggestions bear a distressing resemblance to the policies that first caused Latin America's difficulties.

They favor expenditure switching over expenditure reduction (particularly construction investment over plant investment) because of the lower import requirements, without adequately assessing the value of the investment; they advocate a monetary policy that would too easily accommodate inflation expectations; there is a questionable reliance on incomes policies to reinforce (almost supplant) monetary policy; and their arguments for promoting net exports suggest the use of differential exchange rates in place of tariffs. Theoretically such policies could yield good results. However, the Latin American record shows that they rarely remove the economy from its straitjacket for a long period of time, but only embed a new set of interest groups in the political system. Also, the terms on rescheduled loans are already more favorable than those suggested by the authors, although the percentage of interest payments refinanced still falls below this study's suggested ratio of 80 percent.

Several topics are underemphasized in this book. Capital flight plagued the region, with much of the outflow a perfectly legal response to misguided exchange rate policies. Several countries have rather minor amounts of net foreign debt, though the gross debt figures are large. Moreover, one reason the sharp swing in net inflows of funds was absorbed so well was that capital flight could be reduced without affecting growth directly. Trade policy is also discussed too little. Latin America's share of world trade fell throughout the postwar period, as a consequence of deliberate import substitution strategies reinforced by overvalued exchange rates. Comparisons with East Asia indicate that Latin America's high levels of debt were not necessary to fuel growth or to allow adjustment to the various shocks experienced by the world economy in the 1970s; at the least, a number of East Asian countries experienced unfavorable shocks as large as those facing Latin America, but recovered with lower levels of debt and faster growth.

Overall this study adopts a calm and measured tone, though banks may feel they come out somewhat the worse in the suggested apportioning of the costs. The discussion of adjustment measures may be the most valuable for North American readers, who may not be as accustomed to some of the arguments. Neither

the approach nor the conclusions of this study are particularly novel, however, which may reduce its value to experts in this field.

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The global factory: Foreign assembly in international trade. By JOSEPH GRUNWALD AND KENNETH FLAMM. Washington, DC: Brookings Institution, 1985. Pp. xvi, 259. \$29.95, cloth; \$10.95, paper. ISBN 0-8157-3304-6.

JEL 85-0805

The assembly, in low wage developing countries, of components manufactured in the industrialized countries is the subject of this Brookings Institution study. The authors examine three basic issues. First, what is the nature and importance of this type of overseas production? Second, why has it arisen? Third, what are the costs and benefits to the home and host countries from such outward processing and how can the benefits to both countries be increased? The major portion of the book is devoted to four case studies that address these questions. The first and by far the lengthiest, by Kenneth Flamm, deals comprehensively with the worldwide semiconductor industry. The other three, by Joseph Grunwald and associates, are country case studies. They involve three Western hemisphere countries: Mexico, Haiti and Colombia. Surprisingly, although Southeast Asian countries such as Hong Kong, Korea, Taiwan and Singapore are mentioned as important assembly sites, none of these serves as a case study. This is a curious omission which limits the generality of some of the authors' findings.

Special tariff provisions such as 806.30 and 807.00 of the U.S. tariff code facilitate assembly abroad by permitting duty-free re-entry of U.S. components sent off-shore for assembly. Only the value added acquired abroad is subject to U.S. duty. In the developing countries the components are often assembled in export processing zones. The activities are concentrated mainly in two classes of manufactured products, electronics and apparel. As the authors point out, the value to weight ratios are high in both cases, so that transportation costs are low. Moreover, both can be manufactured in operations that can be easily separated in time and space. Since fashions and technologies change,

both products have relatively short life cycles. Subcontracting between independent firms is the chief vehicle used in the apparel industry, whereas in electronics the manufacturing is carried out largely by subsidiaries of multinational enterprises.

In each of the case studies, the focus is on the actions of U.S. multinationals as initiators of the assembly abroad, partly because the available data are American. Nevertheless, some interesting comparisons are made with Japanese and European firms. With respect to semiconductors, it is noted that through the mid-1970s assembly abroad was much more important to the U.S. firms than the others, but that Japanese overseas production was rapidly growing. This trend has clearly continued: the Japanese firm Fujitsu, for example, has recently announced its intention to acquire one of the largest U.S. producers, Fairchild, which was itself the first American producer to set up a manufacturing affiliate abroad (Hong Kong) in 1961. The greater presence of the Japanese in the U.S. market and the recent semiconductor trade agreement between the U.S. and Japan may have a strong impact on the way semiconductor production is divided globally.

As for the effect of assembly abroad on the developing countries, the authors conclude that the economic and social benefits are mixed. At the top of the list are increased employment and increased foreign exchange earnings. On the other hand, the balance of payments may be worsened by increased employment of expatriates who had not previously been employed. The argument that unemployment is reduced as participation grows. In terms of income, the study finds that during U.S. recessions, American plants at home are often closed as demand falls and output is shifted to lower cost assembly operations in the developing countries in order for the firms to remain competitive. This is the opposite of what is often alleged.

The area in which benefits are weak and could be enhanced is greater integration of assembly activities into the rest of the domestic economy. Increasing forward linkages, the authors postulate, could be achieved by allowing assembled goods to be used as inputs in the developing countries instead of restricting them to exports. The difficulty for the developing countries lies

on the ownership of forwardly linked activities. U.S. subsidiaries, not domestic firms, might be the chief beneficiaries, and this would often be unacceptable to the host countries. A *quid pro quo* advocated by Grunwald and Flamm is that U.S. firms should be induced to accept an agreed minimum on the value added or national content of goods exported to the U.S. Current U.S. trade policy sees national content requirements as protectionist devices. However, the idea is worth considering. To make the national content requirements more palatable to U.S. labor, the authors advocate shifting American workers to more skilled jobs through investment in education and training. This is good advice whatever is decided about national content rules.

A feature of the semiconductor chapter is the construction and estimation of a simple model to measure the social cost of "bringing home" semiconductor assembly to the U.S. The independent variables are the cost advantage of assembly abroad and the elasticity of demand for semiconductor devices. Flamm estimates that the cost would be in the order of six to twelve percent of the value of U.S. consumption of semiconductors depending upon the chosen values of the independent variables. This finding, however, must be considered at best as only suggestive since it requires such restrictive assumptions as a level of protection that completely excludes foreign imports from the U.S. market.

In the concluding chapter a provocative question is raised about how breakthroughs in automation may affect assembly operations abroad by redirecting production to the U.S. Unfortunately, Flamm and Grunwald do not then devote much attention to the ways in which automation can be carried out and their consequences. Some discussion of the viability of computer-aided manufacturing, computer-aided design, flexible manufacturing and computer integrated manufacturing would have enhanced this portion of the text.

The reader who is looking for a good analysis of assembling abroad and its impact on home and host countries would be well served by this book, which makes a useful addition to the literature. However, the enticing title, *The Global Factory*, invites greater expectations which are not met. Assembling abroad is just

one strategy used by multinational enterprises to lower the cost of their manufactured products. Multinational enterprises are increasingly acquiring imported inputs for assembly at home and are interchanging final products among factories scattered around the world. They also do a considerable amount of contracting out, even to the point where they buy final products from competitors and stencil on their own brand name. Much of this exchange is not the North-South trade which is discussed in this book, but trade among the industrialized countries. Complete discussion of what the authors term the international reorganization of product flows requires more than an examination of assembly abroad. If this task is too much for one volume, then the authors could have at least placed assembling abroad in the context of the overall trend toward the globalization of production.

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500 Administration; Business Finance; Marketing; Accounting

520 BUSINESS FINANCE AND INVESTMENT

The process of investment in the Soviet Union.

By DAVID A. DYKER. Soviet and East European Studies. Cambridge, New York and Sydney: Cambridge University Press, 1983. Pp. vii, 254. \$24.95. ISBN 0-521-24831-0.

JEL 85-0509

In terms of its breadth of coverage of various aspects of Soviet investment activity, depth of analysis and conceptual clarity David Dyker's monograph stands out among Western and Soviet works on the subject published in the last twenty years. (The best Soviet work on the subject—Victor Krasovskiy's *Problemy Ekonomiki Kapital'nykh Vlozheniy* [*Problems of Economics of Capital Investment*—was published in Moscow in 1965.) Dyker's book has become even more important now, when modernization of investment policy and restructuring of investment in the national economy occupies the central place in Gorbachev's economic program.

Beginning in the mid-70s and continuing into the mid-80s the Soviet economy experienced an unprecedented decline in investment activ-

ity. The official Soviet statistics reflect a slowdown in the rates of growth of investment. But some respected Soviet economists have claimed that if investment figures are adjusted for inflation they will reflect a reduction in absolute terms. However, the problem is not limited to an investment slowdown. The entire mechanism for investment planning and management is in disarray and the productivity of investment has been falling for more than a quarter of a century.

Beginning with the first five-year plan, none of the measures adopted by Stalin, Khrushchev and Brezhnev have succeeded in coordinating available financial and material investment resources with the scale of investment activity. For more than 60 years Soviet planners have tried unsuccessfully to create a mechanism that would enable the central authorities to control the investment process from Moscow. Numerous attempts to regulate various stages of the investment process were made. All of them were stillborn. The practice of investment planning and the reality of economic life in the Soviet system has developed entirely on its own—not subject to any regulations. Will the new Soviet leadership be able to reinvigorate the investment process without radical economic reforms?

David Dyker's study is of great value to those who are trying to answer this question. It can help Western specialists understand the essential features of the Soviet investment process. And, having worked for many years in investment planning in the USSR, I can say that this book has helped me understand and rethink a number of aspects of Soviet investment practice.

Dyker's study is very well structured; his presentation is logical and contributes to the reader's understanding of a difficult subject. He has devoted a large portion of the book to the development of a framework for analyzing the investment process in the Soviet economy. He has considered major aspects of the economic system which shape this process. Decision making in investment planning, design and construction are well covered. The choice of case studies representing five major investment programs in Siberia, Central Asia and Kazakhstan could not be more successful.

The study is distinguished by a profound un-

derstanding of the contradictions of the current investment situation in the Soviet economy. The discussion of the "reconstruction syndrome" provides a convincing explanation for the failure of the Soviet leadership's attempts to shift resources from construction of new industrial capacities to modernization of existing stock. According to Dyker, neither enterprise management, nor planning and design organizations, nor the construction industry have any interest in this type of investment activity.

The author does not overlook the perennial contradiction of the Soviet economy—the conflict between regional interests ("localism") and centrally-managed industries ("departmentalism") when it comes to allocation of investment. The decision to sharply shift investment from new construction to modernization of the existing stock adopted at the XXVII Party Congress will inevitably hinder the solution of one of the most important tasks of industrial development and the Soviet economy as a whole—the spatial deconcentration of production and the creation of priority conditions for the development of the eastern regions of the country.

I cannot agree with all the views expressed in David Dyker's book. For example, I was surprised to find out that enormous investment in agriculture cannot pay off for reasons of geography and harsh climate. It has always been my understanding that the reason for Soviet agriculture's poor performance

found in poor weather conditions, the centralized-command system, collectivization conditions, and the liquidation of the kulaks. Even Soviet weather is not the problem. The Russian Plain, Western Siberia and the steppes produced crops abundantly. Russia is one of the major exporters of grain in the world. The climate has not changed in the last seventy years.

It should also be pointed out that Dyker has not given enough attention to the discussion of investment problems which Soviet economic journals have conducted actively in the last few years. In theory and practice, Soviet planning gives special attention to its investment policy. The problems of labor and natural resources, by contrast, have always been matters of secondary importance for Soviet decision makers.

And now, despite the worsening deficit in the labor force and mounting difficulties in the supply of raw materials, the earlier relationship to economic resources has changed but little.

The people involved in Soviet economic planning seek to extricate themselves from this situation by optimizing their investment policies. This issue has come to provoke serious disagreements among leading experts in the USSR. The key question is whether, under conditions of declining investments, one can avoid a further slowdown in economic growth.

There are two schools of thought on this issue. One of them essentially justifies the slower tempo in investment growth. The argument runs as follows: the USSR has created enormous fixed capital and productive capacities, and although the investment curve is falling, it still has significant reserves in the form of more efficient use of existing productive capacity.

The opposing school argues that the maximum utilization of existing productive capacities was reached in the mid-1970s. Evidence for that is found in the decline in the use of productive capacity in the later 1970s and early 1980s; one simply cannot squeeze any more juice from this lemon. Hence, unless the negative investment trend is overcome, there is no possibility of preventing a further decline in growth rates.

Thus, it seems justified to conclude that we are about to witness, for the first time since the 1920s, a confrontation among Soviet scholars over the fundamental economic issue—investment policy. In the 1986–90 five-year plan the new Soviet leadership has adopted the second school's point of view and significantly increased investment (mainly in heavy industry) at the expense of the consumer sector of the economy. What results it will bring remain to be seen.

However, these comments do not by any means change my opinion that David Dyker's book is a valuable contribution to the study of the Soviet economy and that his fundamental work will be of great help to scholars working in this field.

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600 Industrial Organization; Technological Change; Industry Studies

610 INDUSTRIAL ORGANIZATION AND PUBLIC POLICY

Regulating the automobile. By ROBERT W. CRANDALL ET AL. Studies in the Regulation of Economic Activity series. Washington, DC: Brookings Institution, 1986. Pp. xiii, 202. \$28.95, cloth; \$10.95, paper. ISBN 0-8157-1594-3. JEL 86-1172

What is good for General Motors is good for society was conventional wisdom some years ago. But questions arose about the environmental, safety and energy consequences of automobile travel at the same time that people perceived monopoly profits were being reaped. Mandatory standards for exhaust emissions, vehicle safety and fuel efficiency followed. Today we ask what these regulatory programs have accomplished and how well they have performed. Robert Crandall, Howard Gruenspecht, Theodore Keeler and Lester Lave, all associated with the Brookings Institution, offer some unsettling answers.

To begin, the authors describe the incredible transition in the U.S. automobile industry during the last twenty years. The market share of imports has tripled, car size decreased and the market for eight cylinder cars nearly disappeared. The "enormous upheaval in Detroit" (p. 12) is attributed to large increases in gasoline prices in 1974 and 1979 and to the lower prices and improving quality of imports. The auto industry, they point out, changed from a comfortable triopoly plus one to a manufacturing group protected by voluntary import quotas. Competitive pressure continues as foreign producers expand, e.g., a new Toyota plant here in Kentucky near Lexington.

"The Costs of Safety and Emission Regulation" are addressed in Chapter 3. One estimate is based on existing engineering data for equipment and additional maintenance and fuel costs. Adjustments for production learning and inflation are made. The largest cost increases occur in 1972–1974 for emissions control, bumpers and interlocks and in 1981 for closed-loop emission control and bumpers. The additional cost of owning and operating a 1981 car

is estimated to be approximately \$2,400 with one third of that due to safety regulations. A second estimate of \$1,300 per car is based on a translog function for operating costs. Econometric analysis of new car prices and industry profits shows that two thirds of the costs are passed on to consumers with a one year lag.

Chapter 4, "The Effects of Regulation on Automobile Safety," is the first of three chapters that analyze one specific regulatory program. The authors describe trends in the preregulatory period. Some readers will be surprised to learn that the fatal accident rate fell by fifty percent between 1921 and 1941 and fell steadily from 1947 to 1962. With an econometric model of traffic fatalities they separate the effects of regulation from nonregulatory effects. The safety variable, a direct measure of crashworthiness standards, is crucial. Passenger car occupants are found to be much safer and total fatalities lower because of regulation. Other travellers are found to face greater risks. The most vulnerable travellers appear to suffer. Based on my own work I find this evidence of risk compensation quite compatible with other evidence. The surprise is the "remarkable effects" (p. 64) on vehicle occupants compared to the presumably upper-bound estimates from engineering studies. This "puzzle" (p. 69) leads the authors to discuss nonregulatory alternatives and be cautious about passive restraints. They conclude the safety program has worked tolerably well to reduce total fatalities at a moderate cost. Use of known, not forced, technology is a reason.

Chapter 5 is "Automobile Emissions Control." The original technology forcing standards set by Congress required ninety percent reductions in emissions from pre-1968 levels by 1975. The authors acknowledge emissions for hydrocarbons and carbon monoxide were halved but show reductions are far short of goals. Substandard road performance and more driving in older cars explain the difference. Growth of inspection and maintenance programs may reduce the disparity, but the authors are not optimistic. They conclude the emissions program has reduced emissions substantially, but much less than mandated. Without large aesthetic benefits (which are not estimated) the program is not worth the costs, especially with the expensive 1981 standards.

"Regulation of Fuel Economy" is discussed in Chapter 6. The corporate average fuel economy (CAFE) standard required a fleet average of 27.5 mpg by 1985. Between 1974 and 1984 fuel economy increased by over fifty percent. Manufacturer response to gas price increases, however, leaves little room for any regulatory effect on fuel economy, at least through 1981. Regression analysis of car model fuel economy shows manufacturers, especially General Motors, made technological improvements which precede the CAFE standards. Actual improvement in design fuel economy is what the authors expect given the higher price of gas. Of the total improvement, half is due to design changes and half to reductions in engine displacement and vehicle weight. They conclude that the fuel economy standards have been irrelevant until recently.

In the final two chapters the authors describe the conflicts among the three regulatory programs and make an assessment. They conclude the programs have not been coordinated for maximum overall impact at lowest cost because they are administered separately and conflicting goals are ignored. The tradeoffs between emissions control and fuel economy and between expensive new car standards and greater use of older cars are not clear. They conclude that without coordinated regulatory goals the programs are not effective.

Essentially this is a study of the automobile industry. The authors conclude the market-based rate of innovation is the worst for the emissions which require the worst regulatory performance. Their analysis can be criticized for slighting nonpecuniary user costs, ignoring public and private costs of administering regulatory programs, and for keeping Durbin-Watson values a secret. It can be criticized for leaving unanswered questions about why apparent policy failures go uncorrected and why impacts on air quality, fatalities and fuel consumption go unmeasured. But Robert Crandall and his colleagues do not promise a perfect or a positive analysis. What they promise is thorough normative analysis of automobile regulation. They deliver.

GLENN BLOMQUIST

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630 INDUSTRY STUDIES

The economics of nonprofit institutions: Studies in structure and policy. Edited by SUSAN ROSE-ACKERMAN. Yale Studies on Nonprofit Organizations series. New York and Oxford: Oxford University Press, 1986. Pp. xvii, 423. \$39.95. ISBN 0-19-503709-X. JEL 86-1199

This volume is the first in a new series edited under the auspices of the Yale University Program on Nonprofit Organizations, an interdisciplinary research enterprise started in 1977. It contains a collection of studies which look at the nonprofit sector from an economic perspective. The first half of the volume, entitled: "Models of Nonprofit Firms," addresses general theoretical and conceptual issues. The second half, "Public Policy Toward Nonprofits," deals with the issue of how governments affect the behavior of nonprofit organizations through the tax system, through direct spending and through regulations. The issues discussed under this rubric include, in particular, the tax deductibility of charitable contributions, direct government grants to nonprofit organizations, regulation of fundraising practices, and corporate tax benefits for nonprofits.

As the editor points out, the volume aims at two audiences. It is intended to show to noneconomists, interested in the nonprofit sector, how economic arguments can contribute to our understanding of this sector. And it is intended to present to economists a new field of study that deals with a distinct category of organizations, "different from both for-profit firms and public agencies" (p. 3). With regard to the latter purpose, the essays included in the first, theoretical part should be of particular interest and the remainder of this review will focus on them.

The ten articles (and two comments) collected in the theory section are somewhat heterogeneous, not only in the analytical approaches they apply but also in the ways they define their subject and in the issues they address. There is, however, a dominant theme that is present more or less explicitly in the majority of the contributions, a theme that seems to be at the core of what in this volume is presented as a new field: "economics of nonprofits." It is the notion that nonprofit organizations, due to their basic legal characteristics which prohibit them

from distributing profits, can be more efficient in serving certain consumer wants than their for-profit counterparts. Their performance characteristics (rather than tax preferences or government subsidies) are considered to provide the essential explanation for why nonprofit firms exist and why they proliferate in certain areas of activities rather than in others. This notion is most comprehensively elaborated in H. B. Hansmann's article "The Role of Nonprofit Enterprise" (pp. 57-84), but it is, in variations, at the heart of several other contributions as well.

Given the crucial role that is assigned to what is called the "nondistribution constraint," surprisingly little can be found in this volume about just how this legal prohibition actually translates into the beneficial performance characteristics that nonprofits allegedly possess. The argument on which the efficiency of the nonprofit form of enterprise is based has two parts. It is, first, supposed that in certain situations where customers are in a poor position to judge or to monitor the quality of the service they want to purchase (due to information asymmetries or to separation between purchaser and beneficiary) market competition is less effective in protecting consumer interests. Second, it is supposed that under such circumstances consumer interests tend to be better served by nonprofit than by for-profit firms.

While the claim that nonprofit organizations have this desirable characteristic is repeated again and again, no rigorous analysis supporting this claim is actually carried out in any of the articles. The explanatory arguments that are presented oscillate between two different lines of reasoning: The one arguing in terms of *differences in constraints* faced by managers of nonprofit and for-profit firms, the other arguing in terms of *differences in managerial motivation*. Neither of the two is, however, systematically elaborated into a coherent explanation. As for the first, one looks in vain for a careful comparative analysis of the actual choices faced by managers in both types of organizations. And, incidentally, one may well doubt whether such an analysis, if carried out, would actually support the claim that the "nondistribution constraint" systematically induces a more consumer-oriented behavior. In fact, the authors invoking this notion seem to have their own

doubts and admit that this is not necessarily true in all cases—without taking the trouble, however, of specifying the conditions under which this can be expected to be true or not. The second line of reasoning that assumes differences in managerial motivation remains even more ad hoc than the first. Apart from methodological issues that could be raised in this context, one would certainly want to learn more about the actual mechanisms that can be expected to systematically bring the more publicly and altruistically spirited persons into the nonprofit sector and the more selfish ones into for-profit organizations. The "self-selection" mechanism cited by some authors remains too vague to provide an answer.

Nonprofit organizations are certainly an interesting subject for economic analysis, and the volume compiled by Susan Rose-Ackerman deserves credit for bringing more attention to this somewhat neglected part of the economic universe. Whether a fruitful and coherent approach to an "economic theory of nonprofit organizations" may indeed be developed along the lines suggested remains to be shown.

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700 Agriculture; Natural Resources

710 AGRICULTURE

The transformation of Mexican agriculture: International structure and the politics of rural change. By STEVEN E. SANDERSON. Princeton, NJ: Princeton University Press, 1986. Pp. xxii, 324. \$42.00, cloth, \$10.95, paper. ISBN 0-691-07693-6. JEL 86-0888

This book is an evaluation of agricultural development in Mexico in terms of three goals that the author has in mind: increased incomes for the rural poor; improved nutrition for the rural poor; and survival of the peasantry. Of central interest to the author is the role of state control of agriculture in "steering" agricultural development toward these objectives.

There are three main sections of the book. The first chapter gives an overview of the agricultural sector in Mexico and the "new international division of labor." (The latter, we are told, refers to the employment of the labor force "for the sake of industrial and agricultural ra-

tionalization at a global level," as well as to the migration of people from their homes to foreign sites of employment). The second major section consists of three chapters devoted to developments in fruits and vegetables, in beef production, and in the basic grains. This middle section contains some useful tables of time-series data on these commodities, although the author has not attempted to reconcile some internal inconsistencies in the data. The final section consists of a chapter devoted primarily to a description and analysis of the institutions for state intervention in agriculture.

The author's conclusions include the following. Mexican agriculture has not served the three goals well, and in fact is in a state of crisis. The cause of the crisis is the orientation of agricultural production to export crops and products for up-scale domestic consumers (wheat and asparagus, for example), rather than basic subsistence crops. The Mexican government has little or no capacity, in the face of the internationalization of agriculture, to "steer" agriculture toward its proper goals.

Most economists will find the analysis unpersuasive. Very little if any data is presented to establish the crisis with respect to the three goals. There are no time series on the number of peasants nor on their income. In fact, there are only brief data on the 1980 population survey. It is taken for granted that peasants are flocking to the cities. None of this would be surprising, especially since the data included suggest that the assumption of many commentators that rural income is increasing over the past two decades.

The author's conclusions seem to be primarily based on his assumption that the production of commercial crops must leave producers and their families with less ability to acquire basic foodstuffs than if they had directly produced those basic foodstuffs themselves. Given this conviction, one only has to observe the commercialization of production in order to establish a deterioration in nutrition and presumably in real income. In essence, this is the line of reasoning pursued by the author.

Given the conclusion that agriculture is in crisis, it follows that state control has not been very effective in realizing the goals described.

The author argues that the instruments available in recent years, namely input and output price subsidies, subsidized insurance and subsidized credit, are not effective in allowing the state to steer agricultural development toward the goals. He asserts that these instruments are especially ineffective in an internationalized agriculture. He does not make very clear why all this is so, and does not directly state what instruments he thinks would be more effective, though he hints that land reform would be a better route.

The author is clearly convinced that state control is necessary to achieve the stated goals, but his prescription for improved state steerage will not be very helpful. He concludes that the state must husband its resources more carefully (stop wasting resources on the export of white asparagus) and must target the recipients of its benefits more carefully. Unfortunately, the mechanisms by which this might be accomplished more successfully than in the past are not specified.

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800 MANPOWER; LABOR; POPULATION

810 MANPOWER TRAINING AND ALLOCATION; LABOR FORCE AND SUPPLY

Understanding human resources: Perspectives, people, and policy. By ELI GINZBERG. Lanham, MD: University Press of America, Inc., 1985. Pp. xvii, 744. ISBN 0-8191-4869-5.

This book is a collection of some of the papers Eli Ginzberg has written on human resource issues and policies during the period 1934 to 1984. Over these five decades Ginzberg was witness to important changes in manpower utilization: the Depression, the Second World War, recovery and growth, the rise of large organizations, the Civil Rights revolution, the changing role of women. All these and more are examined and so too their human resource implications.

Thus the volume, imposing in its scope, can be read as a (social) history of America set in the framework of the relationship between its people and the world of work. It can also be read as a history of private and public human resource (manpower and womanpower) policy

set within the framework of economic analysis. And, of course, it can be read as a chronicle of the perspectives and observations of one of the nation's leading social scientists on one of the continuing economic and social issues that we face and that any evolving society will continue to face. The reader will be rewarded whatever prism he or she selects, be it history, economics, political science or even, since the pieces are so readable and the turn of phrases so apt, as literature. There is much wisdom contained therein.

I began the over 700 pages with a plan: to dip into this and that essay, to find a few that especially intrigued me that I thought might interest others, to focus on a very limited number of concepts and ideas that were particularly interesting, and, finally, to provide the reader with some brief overall evaluation of whether and why the volume might be of interest. This plan went awry. I began my reading with page ix and since I found each section and each essay within it both interesting and useful, I read the entire volume. I believe that others will also do so, even those already familiar with many of the essays. There is much to be gained from seeing them together and, thus, following the themes and threads.

The book has ten sections: Ideas and Reality; Career Choice and Performance Potential; The Unsuccessful; Women; Older Persons; Blacks; Technology and the Changing Economy; Human Resources Management in Large Organizations; Metropolitanism: Focus on New York; Programs and Policy. In addition there is a final "Afterword: Cleanings and Challenges" in which Ginzberg sets forth eleven propositions about human resources and five areas in which "new and improved knowledge about human resources is needed."

The general perspective of the volume, with which this reviewer is in agreement, is revealed in the first essay, "What Kind of Man was Adam Smith":

At the beginning of its third century, the discipline of economics faces a simple alternative. It can continue to postulate that the market alone controls the behavior of men, or it can go back to the roots Smith planted and become the discipline of political economy. (p. 11)

This theme is amplified and discussed more fully and with linkage to human resource policy

in "Values in Social Theory." The beginning student (and the senior scholar) will find that essay critical to his or her understanding of the volume—and of Ginzberg's approach both to economic research and policy formulation. Here Ginzberg sets forth the need to examine the economic, political, and social dimensions of the issues that he subsequently addresses. In essence he rejects the old adage that states "You can make even a parrot into a learned political economist—all he must learn are the two words 'supply' and 'demand'." Political economists must know much more. The subsequent essays support this point. Many of them are conceptual pieces in which Ginzberg sets forth the way we might think about a specific problem. In doing so he forces us to consider a host of variables.

One of the most interesting sections is "Career Choice and Performance Potential." There we see the interplay between theory and field work and the interplay illuminates the issue of occupational choice. It does so by questioning long held assumptions by guidance counselors and by "viewing the choice of an occupation as a chain of decisions," i.e., as a process. It, therefore, follows that the subject of inquiry must be that process and the sequential decisions within it. This developmental theory (and its subsequent modifications) is outlined in essays 7 and 8: "A Developmental Model of Occupational Choice" and "Ginzberg's Theory: A Retrospective View." The final section of the latter essay discusses the practical applications of Ginzberg's theoretical formulation. These should be of interest to labor economists and practitioners in the field of personnel and human resource development, and to any who are concerned with the maximization of employment opportunity and of human potential in an economy as diverse and heterogeneous as ours. The power of Ginzberg's approach and of his developmental model is best illustrated if the two essays are read together with essays 13 and 14: "Soldiers Who Failed" and "Patterns of Performance," a juxtaposition enabling the reader to see how general theory can be applied to a particular human resource issue.

There are other essays that bear discussion. Nevertheless, it seems to me more useful to focus on a few methodological points that reveal Ginzberg's perspective and that lie at the heart

of his contributions. The first is the emphasis on the influence of process on outcomes. It is no accident that Ginzberg examines patterns of organization, that he refers to American democracy, that he discusses styles of leadership. He is interested in statistical relationships but even more in causality and, therefore, in examining the process that leads from "a" to "b." Second, the evolutionary view: his analysis and policy recommendations are sensitive to change and he views change as evolutionary. While Ginzberg classifies many of his recommendations as "modest," that term is hardly appropriate given his time horizon. Third, the inherent optimism: situations can be improved and will improve, but only if we intervene to improve them. To do so effectively requires an understanding of the economic forces at work and an appreciation of American society. As noted, Ginzberg's essays call upon us to think. The power of the essays is enhanced because he also feels and cares about the society in which he lives.

There may be some who, noting the absence of mathematical formulations and statistical manipulations, will consider the essays as "perhaps interesting but really second-hand economics." While it is true that the essays can be read as such, they could not be if the questions asked and the grounding in analysis and theory and can be learned is not sufficient. Also, the reader who discovers that it is that quality that Eli Ginzberg has in fullest measure.

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820 LABOR MARKETS; PUBLIC POLICY

The process of occupational sex-typing. The feminization of clerical labor in Great Britain. By SAMUEL COHN. Women in the Political Economy series. Philadelphia: Temple University Press, 1985. Pp. viii, 279. \$34.96. ISBN 0-87722-402-1. JEL 86-0909

Occupational segregation by gender is a salient characteristic of all industrialized societies.

Certain occupations are overwhelmingly female while others are almost entirely male, producing what Samuel Cohn terms "a virtual bifurcation of the labor market into male/female sectors" (p. 4). Why does this gender-typing of occupations occur? And how does it take place?

Cohn seeks to shed light on these questions by studying the increasing employment of women in clerical work during the nineteenth and early twentieth century in two large British organizations: the General Post Office (GPO) and the Great Western Railway (GWR). The GPO was one of the earliest employers to use women as clerical workers; the GWR was one of the last. By examining the reasons for the different employment strategies, Cohn arrives at several interesting insights into the phenomenon of occupational segregation. He also demonstrates the utility of combining qualitative and quantitative analyses in labor market case studies.

The first chapter provides a framework for thinking about occupational segregation, explains the study's research design and relates the history of the GPO and the GRW. Chapters 2-8 examine, in turn, seven possible explanations for why women entered clerical work, and why they entered the GPO, the GRW, and the various semiautonomous departments of these companies at differential rates. Each of these chapters' conclusions summarizes the main empirical findings connected with each of the explanations. In the final chapter Cohn elaborates his theoretical insights and discusses their relevance for occupational segregation at the national level.

Cohn's major point is that patterns of occupational gender-typing result not from the characteristics or preferences or "socialization" of women, but rather from the characteristics of firms. In the absence of equal pay laws, women can be hired at a lower wage rate than men in virtually any occupation. Cohn argues that two conditions will increase the likelihood that employers will take advantage of lower-priced female labor. Women will be hired instead of men whenever the firm is not "buffered from labor costs" that is, whenever the firm is labor intensive and under pressure to maximize profits.

Women also will be hired whenever the firm has both tenure-based salary scales and learning

curves that are low and peak relatively early. Under such conditions, unless the firm is growing rapidly and providing continual opportunities for promotion, the employer will wish to stimulate turnover of those workers whose wages would otherwise outstrip their productivity. In the absence of adequate natural turnover, a marriage bar, where any woman who got married had to quit immediately, was an "ideal" producer of "synthetic" turnover. Marriage bars were practical tenure bars, Cohn argues, because they were acceptable and easy to legitimate, conforming as they did to traditional gender-role ideology that viewed work and family as incompatible. In Cohn's words:

Hiring sixteen-year-old women and forcing them to retire at marriage ensures careers anywhere from six to ten years long. This is long enough to ensure the conservation of any firm-specific skills, but not so long as to create a severe crisis of productivity. (p. 225)

Two of the usual explanations of why women increased their representation in clerical work are not borne out in Cohn's analyses. First, it seems unlikely that the increased employment of women was supply-driven. Cohn finds that as early as 1870, there seemed to be an "unlimited" supply of women willing to do clerical work. Second, it does not appear that employers sought women to do clerical work because the job was deskilled.

Women entered clerical work not because there was an increase in the proportion of unskilled jobs, but because managers changed their strategies for filling these unskilled jobs. (p. 223)

Cohn's book adds a good deal to our understanding of occupational segregation. It treats controversial complexities with scholarly sophistication and employs quantitative work that is careful and innovative (although one could ask for more clarity in the tabular presentations). There are several arguments for which I wish he had provided more data (for example, although real clerical wages did not decline from 1909 to 1929, how did they do relative to other wages?), but my major criticism of the book is that key concepts are not well-explicated.

Cohn uses the terms patriarchy, feminization, discrimination and sexism throughout the book, but he does not clearly define them.

What is patriarchy? How does it differ from discrimination and sexism? Does discrimination include occupational exclusion as well as unequal pay for equal productivity? How does the concept of buffering from labor costs differ from Gary Becker's concept of taste for discrimination? Is synthetic turnover a manifestation of discrimination? Is feminization a process or an outcome or both? If an occupation or a job is feminized, does that mean that the proportion of women in the occupation has increased or does it mean that more than half of the incumbents are now women?

Colin is not alone in being unclear about these definitions. Those doing work on labor markets need to bring more precision to the use of these concepts.

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The black youth employment crisis. Edited by RICHARD B. FREEMAN AND HARRY J. HOLZER. National Bureau of Economic Research Project Report series. Chicago and London: University of Chicago Press, 1986. Pp. ix, 469. \$55.00. ISBN 0-226-26164-6.

JEL 87-0284

The major social and economic problem explored in these eleven papers prepared for the National Bureau of Economic Research can be illustrated by a few figures from the summary chapter by the editors. The percentage of the 18 to 19 year old male white population employed in 1954 was 61.3; in 1981 it was 61.4. The corresponding figures for nonwhites are 66.5 and 34.5. While the white employment to population ratio for this age group remained stable over 27 years, the nonwhite ratio fell by almost half. These papers cast strong new light on this puzzle, which nevertheless remains a puzzle.

At a time when most empirical research in economics consists of the skillful manipulation of data provided by government agencies, an outstanding feature of this volume is that most of the papers are based in whole or in part on data collected especially for this project. The principal such data set is the NBER survey of black youth, which resulted in 2,854 completed interviews with black males aged 16 to 24 in inner city areas of Boston, Chicago and Philadelphia. This survey provides data on many var-

iables, such as church attendance, drug use, self-reported illegal activities, time use, and absenteeism that are not available in standard statistical sources. These data permit the papers to explore relationships between economic, sociological and psychological factors in a way that is all too rare in social science literature. Needless to say, these explanatory effects are not uniformly successful, but some strong patterns emerge. For example, church attendance is strongly correlated with high employment rates and low rates of illegal activities and drug use (Table 9.4), although it is hard to tell whether these are causal relationships, or the joint product of other factors.

A second new data set is the basis of the paper by Jerome Culp and Bruce H. Dunson, who use matched pairs of black and white job-seekers in Essex County, New Jersey in an attempt to measure racial discrimination by employers. Here a promising research design gives results that are at best suggestive because of woefully inadequate sample size.

Perhaps the most interesting paper in the volume is David Ellwood's "The Spatial Mismatch Hypothesis." Since the work of Kam (1968) it has been widely believed that a major cause of black unemployment has been the movement of jobs where blacks reside. In Chicago metropolitan area, where blacks reside, the youth who live in the inner city are as likely to be unemployed as those who live in the suburbs, and that the difficulty of finding jobs for blacks is not a function of black and white residential proximity in small neighborhoods but a function of distance from the metropolitan area as a whole.

Other new insights are provided by Harry J. Holzer's paper "Black Youth Nonemployment: Duration and Job Search." Holzer reports that the duration of spells of nonemployment are substantially longer for black youth than for white, and relates this finding to reservation wages (the lowest wages at which youths would be willing to accept various kinds of work). Although the reservation wages of blacks are slightly below those of whites according to 1979 data from the youth cohort of the National Longitudinal Surveys, the reservation wages of blacks are consistently higher relative to the wages they actually received on their most recent jobs. This suggests that overoptimistic ex-

pectations are a factor in prolonging the duration of back nonemployment.

The paper by W. Kip Viscusi "Market Incentives for Criminal Behavior" is a brave attempt to exploit an inadequate data base. It is surprising that the NBER data set collects as much self-reported information as it does about illegal activity. However, the illegal activities reported are mainly the less serious ones such as illegal gambling and drug dealing. The fraction of the sample who admit to burglary, robbery or mugging is one percent or less. Viscusi's model has youth choosing between crime and employment on the basis of the expected returns. In a perceptive comment on this paper, James W. Thompson and James Cataldo point out that much of the admitted crime in the survey was committed by employed youths, and that Viscusi's modeling of the incentives may be flawed.

Taken as a whole, this study represents an ambitious and generally successful effort to investigate a highly complicated social problem. The result is a major addition to what we know, even though there is a great deal that we still do not know and would like to learn. The authors have engaged in a vigorous and imaginative exploration of the data, and we have been well rewarded by it.

Such thorough exploration of data is part of an old National Bureau tradition, ridiculed by Koopmans (1947) as "measurement without theory." But perhaps the pendulum has now swung too far the other way. Not every paper in economics needs to start with deductions from first principles. As Freeman, Holzer, and their colleagues have shown us, there is still much to be gained from a more inductive approach.

ALBERT REES

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- Global unemployment: The new challenge to economic theory.* By MARTIN GODFREY. New York: St. Martin's Press, 1986. Pp. xiv, 257. \$27.50. ISBN 0-312-32960-1. JEL 86-0911

The motivation for this book lies in what Martin Godfrey characterizes as changes in the world economy that have rendered past theoretical analyses of unemployment inadequate either for understanding its causes or for formulating policies for its alleviation. Theorizing in industrialized countries had typically been cast in short-run or cyclical terms while that for less developed countries has had a long-run developmental focus. However, the emergence of stubbornly high unemployment levels in the industrial countries beginning in the early 1970s is held to require a reorientation of theory along the lines usually applied to developing countries. Furthermore, the growing tendency to locate industrial production for the world market in less developed countries (LDCs) and the extensive use by industrial country employers of migrant LDC labor imply that unemployment can no longer be analyzed solely within a national context. In essence, recent trends suggest an increasing internationalization of labor markets and, therefore, require a revised or global approach to theorizing about employment.

The author has chosen to review two centuries of theory on the nature, causes, and consequences of unemployment or, more generally, of underutilization of labor in both developed and developing economies. Out of this review he seeks to identify ideas that may prove useful for contemporary theory on the causes of unemployment and for formulating policy initiatives to reduce it.

The historical review is spread over seven chapters that make up the bulk of this volume. Each of these is devoted to a particular "school" or approach to the determinants of employment or unemployment. These include the classical theories of surplus population, neoclassical and Keynesian theories applicable to mature capitalist economies, and four approaches focusing

on surplus labor in developing countries—those of neoclassicists, developmental economists, "Keynesians," and Marxists and neo-Marxists. A concluding chapter evaluates recent trends that may be indicative of a convergence of the approaches applied to mature and developing economies and identifies the directions Godfrey considers to be most fruitful for further contemporary theorizing.

Most of the classical theories of surplus population are considered as offering no insights into contemporary issues. Only Marx is cited as relevant. Whereas Ricardo and Malthus viewed labor markets as tending towards equilibrium by variations in population growth rates, Marx posited the existence of labor surplus as a permanent feature of a capitalist economy. The contemporary parallel is the prolonged survival of high unemployment rates in the industrialized economies with no corrective mechanism operating to restore full employment. The neoclassicists' concern with comparative statics and efficiency are irrelevant for today's problem. The current concern is not with achieving fuller employment by moving down along demand schedules but rather with shifting them to the right. In addition to Keynes, Godfrey reviews the contributions of Kalecki, Harrod, Domar, and the various writers on the Phillips Curve and its augmentations. From the "disarray" characterizing these approaches, Godfrey identifies two as currently relevant: the Keynesian notion of aggregate demand deficiency as a cause of unemployment; and the notion of a "natural rate" of unemployment, that level at which inflationary expectations are consistent with experience so that the rate of inflation remains constant. While these theoretical insights are held to be useful, they do not lead to clearly defined policies for achieving the twin objectives of low unemployment and price stability.

Neoclassical theory is no more relevant for developing countries than it is for mature economies. While its emphasis on distortions of various prices on the demand side and on the factors governing individual choice on the supply side may be useful for explaining some phenomena at a moment in time, it is much less useful for explaining changes in the degree of labor utilization over time. More promising in Godfrey's eyes are the developmentalist "Keynesians," so called because of their emphasis on

the demand side and on the inadequacy of investment. The theoretical remedies range from the balanced growth models of Rosenstein-Rodan to Currie's leading-sector and Knapp's vent-management approaches, the latter involving government price and market guarantees to producers of a wide range of products as a means of stimulating new investment. Godfrey recognizes that the success of these approaches requires that certain stringent conditions be met that may, in fact, lie beyond the ability of LDCs to satisfy. Nevertheless he suggests that the process of formulating new useful approaches to the analysis of unemployment could do worse than to begin with a review of this body of literature.

While the introduction and definition of the employment problem may create an expectation that a new broader frame of reference for the analysis and amelioration of unemployment is in the offing, most readers are not likely to consider this expectation satisfied. By and large, unemployment is still treated as a national problem to be addressed at the national level. The "internationalization of labor markets" is relevant only insofar as capital movements, imports, or migrant labor threaten domestic employment opportunities. But even here, some limits may have been reached. The end of the import substitution era in Europe and the Middle East, the oil producing countries, and the newly industrializing Folker Republics may move with relative ease to relocate production is unlikely to reduce labor underutilization in the developing countries (p. 228).

The greatest virtue of this volume lies in its concise reviews of the principal schools of employment theory. While Godfrey dismisses most past theory as irrelevant for purposes of developing employment-promoting policies, he ultimately fails to break new ground. Few economists are likely to disagree that significant and permanent improvements in employment conditions require sustained capital accumulation and growth. Beyond this, most of the "new" insights that are offered for consideration by contemporary theorists strike this reviewer as simply old ideas in new dress. Furthermore,

the author's relegation of most of the adult population of the developing world to an "international reserve army" leads him to dismiss supply side theory as irrelevant. His assumption that the supply of labor to modern economic sectors is perfectly elastic is likely to be questioned by students of at least some LDC labor markets. Godfrey holds that an increase in economic efficiency is achievable only by promoting a faster rate of investment and growth. He therefore regards the neoclassicist's concern with efficient resource allocation as irrelevant to the current problems of stagnating economies. Instead, he is led to advocate protectionism and import substitution measures to provide powerful incentives to investment and thus to rekindle growth in the advanced but "deindustrializing countries." While he acknowledges that such policies have generally spawned inefficient growth he appears confident that safeguards can be adopted to forestall such an outcome. Many economists are not likely to share his optimism.

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Pensions, economics and public policy. By RICHARD A. IPPOLITO. Homewood, IL: Dow Jones-Irwin for the University of Pennsylvania, Wharton School, Pension Research Council, 1986. Pp. xxiii, 267. \$25.00. ISBN 0-87094-760-5. JEL 86-0913

Labor economists are interested in the work incentives created by pension plans, while financial economists are concerned with their role as a vehicle for tax-sheltered saving. Both perspectives are nicely balanced in this volume, which draws together the research findings of the author during his years as director of policy and research for pensions at the U.S. Department of Labor. Throughout, Ippolito exhibits a healthy respect for market outcomes, as benefits an economist trained at the University of Chicago. He makes extensive use of a comprehensive data set created at the Department of Labor. Detailed summary statistics and regression results support the analysis conducted throughout the volume.

The book is divided into five parts: (1) the economic principles of pensions; (2) pension growth; (3) economic implications of pensions; (4) pension plan characteristics; and (5) public policy considerations. The key chapter in the

first part develops the author's implicit contract model of pensions. In essence, Ippolito argues that workers "pay" for real pension benefits, in spite of the fact that the benefits legally due under the plan are nominal. Workers forego cash wages in return for pensions that are tied to their final wage just prior to retirement, rather than their current wage. The key implication is that the wind-up or termination measure of the firm's pension liabilities, which is based on the firm's legal obligations, understates the true or "economic" pension liabilities of the on-going firm. As Ippolito shows in a follow-up chapter, a firm's legal pension liabilities may typically be as little as 50 per cent of its "economic" liabilities. Based on the latter concept, pension plans in the aggregate are not overfunded, and plans in the union sector are decidedly *underfunded*.

The second part provides evidence on the actual and projected rate of growth of private pension plan assets, including the growth of defined contribution plans. The third part assesses the impact of pensions on the labor market, including retirement age, and the capital market. The key chapter in the fourth part addresses the underfunding puzzle. Ippolito hypothesizes that firms are willing to forego the tax advantages of full funding in order to make unionized workers long-term bondholders of the firm, and thus to limit workers' ability to raise wages or to reduce productivity and thus to threaten the long-term viability of the firm.

The fifth part contains two chapters on public policy toward private pension plans. In the first, Ippolito starts from the assumption that the goal of public policy is to eliminate obstacles that might impede market solutions to the problem of generating retirement incomes. His recommendations include, for example, the elimination of all constraints on private pension plan rules and the "privatization" of federal pension insurance. While many readers may be unpersuaded by these recommendations, all should benefit from the discussion of the economic reasoning behind them. In the second chapter, Ippolito's analysis focuses on the most controversial issue in the pension field today, the termination of overfunded plans with the reversion of surplus assets to the employer. In his excellent discussion, the author explains how the implicit contract model suggests that some

workers may suffer economic losses from such terminations, but reminds us that our understanding of the rationale for such terminations is sufficiently incomplete to warrant caution in formulating policy. He recommends that the government not attempt to redefine asset ownership, but rather take steps to facilitate *explicit* pension contracting, as well as to devise a means to recoup the tax gains embedded in reversions.

The policy recommendations in this book, as well as some of the economic arguments, will be controversial. Economists might question, for example, whether the implicit contract model applies with equal force to the union and nonunion sectors, in light of the explicit contracting that occurs in the former. Ippolito's explanation of the underfunding puzzle may also provoke debate. Since the underfunding of union plans is due to their periodic and retroactive enrichment, some may argue that this underfunding is simply a by-product of unions' desire to redistribute wealth to older workers.

Although the author's implicit contract model and major related findings are already available to economists (for example, Ippolito 1985a, b), I am pleased to recommend the book to those who would like more convenient access to these important contributions. I would also recommend the book to those, economists and non-economists alike, who seek a fuller understanding of the economic issues that are pertinent to the pension policy debate.

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Working lives. The American work force since 1920. By JOHN D. OWEN. Lexington, MA and Toronto: Heath, Lexington Books, 1986. Pp. 218. \$25.00. ISBN 0-669-11265-8.

JEL 86-0918

In a refreshing change from the best of current labor economics, John D. Owen attempts

to view broadly the evolution of the U.S. labor market over a long period, the interval between 1920 and 1977. He focuses on the large demographic trends that have so substantially altered the composition of the U.S. work force, namely the withdrawal of the young, the entry of adult females, and the acceleration of retirement among older males.

Owen considers a variety of special topics: pension effects on retirement, schooling effects on the labor supply of the young and on their fathers (who must help support the young in their venture), wage effects on female labor supply, and the occupational demand shifts that supported the wage changes. The strength of his presentation is in his appeal to a variety of commonsensical confirmations and contradictions of common hypotheses.

Owen does present an original statistical analysis, but this effort is not persuasive. Owen's sample is U.S. aggregates of five age groups at ten dates between 1920 and 1977. Even were the data accurate, the limited sample would not permit him to test hypotheses of much subtlety. In fact for a substantial part of the period the data is crude or nonexistent. The census labor supply concept before 1940 (gainfully occupied) was radically different from later measures. The census did not collect earnings data before 1940. Unfortunately the book's analysis is not sufficiently detailed to show how Owen collects data for the earlier years although his estimation proceeds.

Perhaps of the greatest criticism of the book is Owen's conclusion. How successful is his prediction of actual life expectancy? Although the data are clearly limited, he does not seem to break free of the synthetic cohort approach of traditional life cycle analyses; he has wage and labor force data of some sort over a whole work life of one cohort and the larger part of several others. Owen finds little support for the deterministic life cycle model that he identifies with Ghez and Becker. In the U.S. in the period 1920 to 1977 the real wages of men rose fourfold. More importantly for the life cycle hypothesis, the real wages of males who were teenagers in 1920 rose 7.5 times by the 1970s. The incentives to withhold labor as teenagers and to work as golden-agers would

seem to have been immense for the members of this cohort yet they insisted on working early and retiring early.

The data again are crude in the early period and the wage rate corrections made for selectivity bias for various age groups are rudimentary. Nonetheless the magnitudes of the wage and labor activity levels are so large that I find Owen's conclusion quite plausible: "changes in the life-cycle behavior of females [like males] . . . can usually be more readily explained by assuming that women (like men) tend to project current cross-sectional relationships into the future than by positing that they successfully forecast change." Certainly the life cycle hypothesis fits the labor supply behavior of the 1920 cohort better under such an assumption than under one of perfect foresight. The discussion here would however have been more satisfactory had Owen compared his aggregate findings with the recent work of MaCurdy and others who use panel data sets.

Owen also attempts to establish the value of a composite labor activity measure, labor input per capita, that combines labor force participation and hours per week of workers in multiplicative form. He presents no theoretical justification for this variable nor does he identify any previously unrecognized trend in labor behavior based on it. Indeed the series he compiles do offer a different perspective on several labor trends, but Owen does not call attention to them. The large increase in labor force participation of adult women, for example, is considerably moderated when multiplied by weekly hours because a great deal of the increase has been among part-time workers. Conversely the labor supply contraction of teenage males in the U.S. over this period has been much larger than labor force participation rates would suggest since the prevalence of part-time work has increased for this group as well.

The text discussion is nontechnical with discussions of the simple models considered here relegated to appendices. The book should be accessible to upper level undergraduates; the rather heavy use of professional jargon may make it somewhat unsatisfactory in that role. I suspect that its main value will be to remind labor economists of the interrelationships of the broad trends in labor activity that have occurred over this period. Even a specialist will find

much that is interesting and thought provoking.

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830 TRADE UNIONS; COLLECTIVE BARGAINING;
LABOR-MANAGEMENT RELATIONS

The conflicts between labor and environmentalism in the Federal Republic of Germany and the United States. By HEINRICH SIEGMANN. New York: St. Martin's Press, 1985. Pp. viii, 201. \$27.50. ISBN 0-312-16236-7.

JEL 86-0591

As the title of this book implies, the author addresses the question "whether and under what conditions . . . labor-environmentalist conflicts indeed are inevitable; or whether, and how, the two movements could cooperate more" (p. 1). Having posed his question about conflicts and cooperation between organized labor and environmentalist groups, Dr. Siegmann then considers five hypotheses about the labor-environmentalist relation: (i) that conflict is inevitable since there is a contradiction between pursuing employment and environmental protection goals; (ii) that differences in the demographic and socioeconomic composition of the two movements prevent cooperation; (iii) that differences in the internal organization of unions and environmental groups favor conflict; (iv) that national political systems impede cooperation; and (v) that opposing ideologies favor a conflictual relationship.

In his investigation of these five hypotheses, the author uses what one might call a comparative-historical-institutional approach. That is, he selects the United States and the Federal Republic of Germany (F.R.G.) as test cases and then looks at their experiences during the past two decades. These two nations share a number of important characteristics: advanced capitalist economies, federal political systems, energy problems during the 1970s, etc. At the same time, however, they are different in important respects: a more unionized labor force in the F.R.G., parliamentary government in Bonn, codetermination rights and industry-wide bargaining for German unions, and so forth. Hence, the author's method permits him to explore whether the hypotheses hold under similar, but somewhat different, political-economic

circumstances. In an effort to empirically test the five hypotheses, Dr. Siegmann has assembled an ingenious array of descriptive statistics for the two countries: standard economic statistics, results of public opinion polls, content analyses of labor and environmentalist documents, ratings of voting records of members of Congress, and demographic survey data.

After reporting these data, the author reaches a number of interesting conclusions. One is that, although there was some conflict between organized labor and environmentalists in both countries during the 1970s (especially over nuclear power development), the political positions of the two groups have converged during the 1980s, even during periods of recession. In the F.R.G., one apparent reason for this convergence is that some unions perceive that environmental protection and energy conservation projects are net creators of job opportunities. Another interesting conclusion is that, although there are substantial differences in the demographic and socioeconomic profiles of the members of labor unions and environmental groups, this does not account for labor-environmentalist tensions since there is broad popular support for environmental protection in both countries. A third conclusion worth noting is that a nation's political system can have a substantial impact on the exact form which environmental activism takes: The close alliance between West German unions and the Social Democratic Party and the relative insulation of parliamentary parties from interest-group lobbying has apparently channeled West German environmentalists into local organizations and prompted the formation of an ecological political party, whereas U.S. environmental organizations tend to be nationally-based lobbying groups which are also active in civil litigation.

Before mentioning a few shortcomings of this book, let me first note an important strength. Dr. Siegmann is to be commended for avoiding the potential trap of economic determinism. He skirts this methodological pitfall by emphasizing that historical outcomes depend upon strategic choices, efforts at coalition-building and unanticipated shifts in ideology and hence cannot be predicted by simply looking at individuals' "economic interests." Having said this, however, I should add that the author's discussion

of ideology is quite weak, in particular his claim that the left-right political spectrum is outmoded and that a materialist-postmaterialist continuum is now more useful to the political analyst. His focus on labor unions as a unit of analysis is also theoretically constraining since he pays almost no attention to the potential for conflict and cooperation among workers as a social class, whether or not they belong to unions. His discussion of potential conflicts between economic interests and environmental protection is also dissatisfying since he mentions the perceived employment effects of environmental and energy policies but ignores the distribution of benefits of environmental improvement as well as the incidence of the costs of financing environmental protection measures, issues which I have recently addressed (1986, ch. 7) elsewhere. Despite these criticisms, I would recommend Dr. Siegmann's book as an empirically rich source on the political economy of labor unions and environmentalism.

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REFERENCE

ENGLAND, RICHARD W.
*political conflicts in
the political economy.* NY

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Determinants of

tries. Vol. 1. *Studies in*
demography. Edited by ROY

RONALD D. LEE with PAULA F. HOFFENBACH
AND JOHN BONGAARTS. *Studies in Population*
series. New York, London, Sydney and Toronto:
Harcourt Brace Jovanovich, Academic
Press, 1983. Pp. xvii, 642. \$37.00. ISBN 0-
12-140501-X. JEL 85-0587

How one views high rates of population growth in low-income countries and, in particular, whether they are seen as a problem depends on how one evaluates the consequences of population growth. Some analysts see rapid population growth as a brake on economic development, depressing or at least slowing a rise in living standards by diverting resources that could be employed to raise levels of living to uses designed to accommodate an expanding

population. It is this view that provides the rationale for this study, and because there are continued pressures to reduce mortality and because international migration contributes little to population growth in developing areas, attention is focused on fertility as the key policy variable.

The two volumes that comprise *Determinants of Fertility* (only the first of which is discussed here) review the research evidence about determinants of fertility differentials and fertility change in the developing countries. Following an analytic framework set out in the introductory chapter, the first volume discusses supply and demand for children, and the second discusses fertility regulation and its costs, fertility decisions, nuptiality, and the effects of social institutions. The second volume also contains a summary chapter and an agenda for further research. Both are the work of the Panel on Fertility Determinants of the Committee on Population and Demography, National Research Council, created in response to a request from the U.S. Agency for International Development to assess research in this area and make recommendations for further work.

Volume I is divided into three parts. Part I contains an analytic framework; it is the unifying agent for the volumes' remaining chapters in which individual authors were asked to develop particular aspects of the overarching design. The editors emphasize that Part I is only a framework and not a tightly-knit theory of fertility determinants. There is no formal mathematical model nor any attempt to provide specific predictions of fertility responses to changes in determinants. Instead, Part I aims to develop a comprehensive list of the components that affect human fertility and to specify their interrelationships.

The analytic framework is adapted from the work of Richard Easterlin (1978) and has three basic components: (1) the supply of children—the number of surviving children a couple would have if they made no deliberate attempt at fertility limitation; (2) the demand for children—the number of children a couple desires; and (3) fertility regulation—covering both the means and the costs couples face in converting their fertility desires into actual fertility outcomes. It is assumed that a couple first compares supply and demand, and then considers

the desirability and the costs of fertility regulation. The more supply exceeds demand the more motivated a couple should be to employ some means of fertility limitation. Fertility outcomes depend upon this complex calculus and then feed back to the couple's reproductive history which, along with macro social and economic factors together with the couple's socioeconomic characteristics, help recondition the three basic components for the next round of fertility decision making.

Part II considers the supply of children. It begins with a critical overview by Johnongaarts and Jane Menken and contains five other chapters focusing on natural fertility, the impact of sociocultural factors on breast-feeding and sexual behavior—both of which affect natural fertility, and child mortality, which drives a wedge between the supply of births and the supply of living children. Part III treats the demand for children and begins with a critical essay by Ronald Lee and Rodolfo Bulatao. This first chapter discusses the concept and measurement of demand followed by an examination of the major influences on demand, including the direct economic costs and benefits of children, opportunity costs, tastes and preferences for children, effects of income and wealth, and prior childbearing and childrearing experiences. Other chapters in Part III round out this critical essay by focusing on family-size desires as measures of demand, child mortality as it relates to the difference between the demand for children and the demand for births, community-level determinants of demand, such price variables as the perceived and actual economic costs and benefits of children and the opportunity cost of the mother's time, and the effects of income and wealth on demand.

This book will stretch the horizons of most economists interested in the determinants of fertility. The analytic framework is broadly multidisciplinary—drawing on work in economics and public health, in psychology and anthropology, and in sociology and statistics—rather than narrowly economic. In fact, of the 21 authors in volume I, only 4 are economists—Ronald Lee, Peter Lindert, Eva Mueller, and Kathleen Short. Moreover, the framework goes considerably beyond the perspective of the new home economics approach to fertility, illustrated, for example, in the *Economics of the Family* vol-

ume edited by Theodore Schultz (1974), by introducing supply factors and the costs of fertility regulation.

Readers expecting to find well-developed theoretical models, followed by rigorous empirical tests and reports of regression estimates, will be disappointed. Though the individual chapters are broadly empirical and contain frequent tables and charts, most empirical results are discussed but rarely shown. Indeed, apart from the appendix to one of the chapters, there are just four equations in 642 pages of text. What this volume does, however, is provide the reader with much of the richness and complexity of the fertility process so that subsequent model builders will be in a better position to realign their sights. *Determinants of Fertility* deserves to be read and studied. The expected return is well worth the effort.

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900 Welfare Programs; Consumer Economics; Urban and Regional Economics

910 WELFARE, HEALTH, AND EDUCATION

Medical malpractice: Theory, evidence, and public policy. By PATRICIA M. DANZON. Cambridge, MA and London: Harvard University Press, 1985. Pp. vi, 264. \$17.50. ISBN 0-674-56115-5. JEL 86-0289

Medical Malpractice by Patricia Danzon is instantly the standard work in the field and an important work in the economics of tort liability. Professor Danzon takes pains carefully to analyze and lay bare the structure of a difficult social problem. *Medical Malpractice* is an indictment of medical practice, the insurance industry, the legal system, and the political system, yet it maintains a tone and affect of balanced academic inquiry that causes the

reader to wonder whether the author sees her work as the indictment that it is.

Professor Danzon's work stands practically alone in this extremely important field. The best data we have on medical malpractice today were generated twelve years ago from an isolated California study where medico-legal experts analyzed a large sample of iatrogenic problems and counted those which would have resulted in malpractice claims, if they had been brought to trial. If the problem of medical malpractice is as serious as Professor Danzon's work would lead us to believe, such data should be gathered on a regular basis wherever medicine is practiced, and analyzed regularly by doctors, hospital boards, insurance companies, economists, and politicians.

Professor Danzon's book can be interpreted as trying to come to grips with one startling fact: "... at most 1 in 25 negligent injuries resulted in compensation in the malpractice system" (p. 24). Her general position is that in a system where there is so much negligence, even costly deterrence through the legal system is likely to be worthwhile. Some of her suggestions would go a long way toward reducing the costs of litigation, making it a much less costly method of deterrence. She recommends replacing traditional full compensation determined on an individual basis with a schedule of limited benefits, including: medical expenses comparable to coverage provided by private health plans; full replacement of private insurance; offset of private insurance; no compensation for all private and Medicare and Medicaid; no corresponding part of the cost of medical care; offering compensation for only the most serious injuries only; and strict rules for determining inflation, interest rates, and growth parameters.

I feel that the author underplays the importance of these recommendations, all of which would help counteract the worst tendencies of the tort system. For example, litigation of pain and suffering brings out the very worst in the adversary system: movies on a day in the life of a paraplegic, postponement of treatment until after a trial, all kinds of biases in favor of attractive plaintiffs. Even more important, the variability and unpredictability of the outcome of litigation can be greatly reduced, thereby

substituting settlements for litigation, and deterrence for anxiety.

Professor Danzon provides a thoughtful discussion of the various possible reforms of litigation costs. When she says, on page 207, "neither theory nor evidence gives us much guide for reform," her modesty on our behalf is well placed. I disagree with her traditional economic analysis of the contingent fee; I fear that we know much less about that peculiar institution than she suggests. A survey conducted by the Federal Trade Commission suggests that the plaintiff's bar hardly ever practices on an hourly rate basis, even for an open-and-shut case. It also found that 33 percent is one of the eternal constants of the American economy. Ordinary economic theory does not adequately explain such remarkable pricing inflexibility, nor can we be confident about any welfare economics inferences in a market with such peculiar pricing.

Professor Danzon recommends freedom to contract out of standard tort rights, particularly in the context of a standard insurance contract. She is absolutely correct. Malpractice is a problem that arises between parties related by contract. These are not strangers bumping into one another in the street. Other aspects of their relationship are carefully controlled by contract. There is no reason to believe that if insurance contracts could explicitly deal with these matters that they would freely choose the bizarre procedures and results that characterize the tort approach to malpractice. If nobody wants it, no one will choose it.

Public discourse on malpractice has been depressingly unenlightened as to economics. Economists have not played a significant role in the public debate on medical malpractice or on tort reform in general. Professor Danzon's work is an important step in bringing economic analysis to bear on public policy toward medical malpractice, and every economist interested in either medical economics or law and economics should become familiar with it. Indeed, lawyers, doctors, and citizens interested in social policy should read the book. *Medical Malpractice* provides a common ground of data and interpretation that these often warring factions can share, understand in their different ways, and use to advance the common cause of reducing the huge costs of medical malpractice.

I expect, however, that most of the people who should read the book will not. It is intensely scholarly, and at times more dense and less approachable than it needed to be. Professor Danzon deserved more support from the editor and the Harvard Press in terms of more graphs and charts to simplify and focus the discussion of table after table of data. What was occasionally heavy going would have been lightened for this reader if the technical analysis had been relegated to appendices for the intrepid, with only central charts or graphs left in the text for the main body of the readership.

JOHN PRATHEER BROWN

Chase, Brown, & Blaxall, Inc.

From health dollars to health services: New York City, 1965-1985. By ELI GINZBERG ET AL. LandMark Studies series, Totowa, NJ: Littlefield, Adams; Rowman and Allenheld, 1986. Pp. xii, 163. \$29.50. ISBN 0-8476-7440-1. JEL 86-0943

The introduction of federal government financing of health care in 1965 through the Medicare and Medicaid programs has had a tremendous impact upon the American health care system. The enlarged flow of dollars to the health care system has increased access to services for the elderly and the poor and has increased funding and reimbursement of providers such as hospitals and physicians. By increasing the proportion of expenses financed by insurance, Medicare and Medicaid also have augmented the distortions in the health care system which are so familiar to health care economists.

In this book, Eli Ginzberg and his associates examine the impact of increased federal funding of health care upon the recipients of health care services and the providers of the services in New York City. The authors' main purpose is to document how the new dollars were transformed into more and better services in the two decade period, rather than to analyze whether government spending was an efficient method to achieve these goals. Consequently, even though the authors' assessment of the value of Medicare and Medicaid and their forecasts of changes in the health care system may not meet the full approval of market-oriented health care economists, they do provide a comprehensive summary of what transpired in New

York City. In as much as the New York market is representative of developments in the whole country, the scenario surveyed here will be of considerable interest to both practitioners and economists.

Chapter 1 comprehensively summarizes the contents of the book and convincingly establishes why it is worthwhile to examine the New York market. New York City has long been a leading center for medical education with six academic health care centers and publicly financed a substantial municipal hospital system to provide care regardless of ability to pay long before the advent of federal government financing. In addition, the City has witnessed dynamic population changes, has had a strong trade union movement, experienced a serious financial crisis in the mid-1970s, and has had a rich tradition of philanthropy. These factors make it a particularly interesting market to examine closely.

Chapter 2 documents the cascade of dollars flowing to New York City after 1964. The authors cite increased funding from all sources and adjust for inflation. In Chapters 3-7, the main body of the book, the authors trace the impact of the increased dollars upon various parts of the health care system. Chapter 3 provides a good description of the changes in voluntary, municipal, and proprietary hospitals. The discussion focuses on increases in expenditures rather than on quantitative measurement of the improvement of the quality of care, but the authors argue that such a large increase in the quantity of real resources devoted to health care could not have failed to improve the quality of care.

Chapter 4 is devoted to case studies of the evolution of two hospitals, St. Vincent's and Montefiore. The in-depth treatment of the effect of the changing environment upon these two hospitals is probably the most interesting part of the whole study. However, it is difficult to derive generalizations from these two cases. Chapter 5 documents the support of the health care sector by the city and the state and describes changes in various services. The effect on physicians is the subject of Chapter 6. Among the most important impacts discussed are the decline in the number of physicians

providing voluntary care to the indigent, the appointment of salaried physicians to teaching hospitals, and the greater responsibility assumed by residents. The discussion of physician incomes should have been more extensive. Chapter 7 is a sympathetic treatment of the unionization of health care workers. There are interesting discussions of the development of unions, strikes, effects of changing racial mixes, and the effects of changing government financing.

In Chapter 8, an assessment of the increased government financing of health care is made. The authors conclude that the principal beneficiaries were the elderly, the poor, and those who needed very expensive treatments, but the whole population gained access to more sophisticated care. Academic health centers prospered. Providers, especially physicians, did well.

The final two chapters deal with lessons for the future and the changing health care system. The authors reiterate that Medicare and Medicaid resulted in more and better health care, but argue that neither proponents nor opponents considered the inflationary effects increased government spending on health would have. The authors believe that programs removed costs from patients; however, they do not believe that the cost of the health care system has been reduced. They believe that a cost containment program is needed. They do not believe that the impact in New York City of the DRG (Diagnosis-Related Group) program and its possible extensions will affect New York hospitals.

In the current environment the cost/benefit trade-offs of government spending are being closely examined. Although it does not adequately deal with this issue, this volume by Ginzberg and associates will prove to be valuable reading for economists interested in the impact of massive government spending on health care. Many lessons can be learned from this detailed examination of the experiences in New York City.

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The perception of poverty. By ALDI J. M. HAGENAARS. Contributions to Economic Analysis series, no. 156. Amsterdam and Oxford: North Holland; distributed in the U.S. and Canada by Elsevier Science, New York, 1986. Pp. xv, 301. \$43.00. ISBN 0-444-87898-X. JEL 86-0944

It may come as a surprise to some readers that in many of the so-called "welfare states" in Europe research into the causes and consequences of poverty is a virtually neglected activity among economists and other social scientists. Most European countries do not measure on a regular basis the size of the population below an official poverty line, or judge the merits of social programs by what these programs do for the official poor. In contrast, in the U.S., especially since the war on poverty, "the poor" are an officially defined group, poverty statistics are produced on a regular basis and a blossoming research industry exists, focusing on poverty and the poor.

Professor Hagenaars' stimulating book provides something for both European and U.S. economists: it reviews many of the conceptual and empirical issues to be dealt with when doing poverty research. As such it is a very useful introduction for European economists to the literature on poverty, which stems mostly from the U.S. The book also applies, in eight European countries (Belgium, Denmark, France, West Germany, Ireland, Italy, The Netherlands and the United Kingdom) an innovative new way to measure poverty, indeed to measure a household's welfare level in general. As such, it provides food for thought for U.S. scholars to whom some of the review chapters may seem a bit too familiar.

The book can be divided in two parts: Chapters 1 through 6, that review many of the conceptual issues and introduce the new methodology; and Chapters 7 through 13 that describe the data and the empirical results. Being poor is defined as having a welfare level that is below a given cutoff point; welfare is defined as having command of resources and is operationalized as a function of total after-tax household income. The new methodology employed in this book deals with the measurement of this welfare function. The necessary information is obtained by asking respondents the following question:

Under my (our) conditions I would call an after-tax income of:

about \$_____	very bad
about \$_____	bad
about \$_____	insufficient
about \$_____	sufficient
about \$_____	good
about \$_____	very good

Thus the respondent's welfare evaluation of income is measured *directly*, with the aid of this "subjective" question. Though the use of subjective questions is very common in other social sciences, it is rare in economics. Still the question itself has a straightforward economic interpretation: it measures six points on a household's minimum cost function, the inverse of the direct utility function (how much does it cost to reach utility level "good"). It is a pity that the author does not spell out this direct link to the more standard neoclassical literature on household behavior. It would have helped the reader to relate the discussion more easily to the existing literature and it may have clarified some of the more confusing parts of the book (see below).

Armed with six direct observations of a household's "Welfare Function of Income" (WFI, in the author's terminology), this function can be estimated for each household. Based on van Praag's theoretical work (van Praag 1968) and subsequent empirical validations (e.g., van Herwaarden and Kapteyn 1981), the functional form chosen is that of the two-parameter log normal function. Subsequently, these two parameters can be related to various household characteristics (like family size) and nominal household income can be adjusted to obtain a welfare measure that allows one to compare welfare levels among households that live in different areas, have more or fewer children, one or two earners, etc.

In general, the author is very careful in stating which hypotheses have to be made at each step in order to obtain this welfare measure. For instance, the mean of the WFI is likely to differ between a one-earner and a two-earner household. While discussing this, the author carefully avoids reference to leisure as a poten-

tial source of welfare. After all the welfare concept discussed and measured is welfare derived from income. Unfortunately, while discussing the effect of having more children, the author introduces "parental joy," "children as consumption goods" and "taste and preference changes when a child is born" into the discussion. The first two issues suggest erroneously, that the welfare concept used is much wider than explicitly stated by the author and presumably measured by the question. The third issue brings up the question how far one is willing to go when household income is being adjusted for different circumstances. Larger needs (more mouths to feed), higher prices in urban areas and reduced home production or increased cost of working seem rather uncontroversial reasons to adjust nominal income. But if taste and preference changes are also acceptable, everyone will be poor who says that he is poor, irrespective of income or other factors.

This of course, does not discredit the new method itself. The same problem will occur if, for instance, careless use is made of the food share as a welfare indicator (everyone is poor who spends "too much" on food). But it does suggest that one has to be extremely careful in interpreting what aspect of welfare is actually measured by this direct method, and how and for what purposes this welfare measure can be used.

The second part of the book is a joy to read if empirical work has a large weight in one's overall welfare function. Based on identical household surveys conducted in eight countries of the European Economic Community (a logistical accomplishment of some magnitude), the author presents average welfare levels for a dozen different household types followed by analyses of income determinants, of the welfare parameters obtained and, finally, of the determinants and extent of poverty. One is at once struck by the consistency of the results across such different countries as well as by the observed differences. The chapters are very rich both in straightforward information and in analytical results. They make this book a major contribution to the study of poverty and—more generally—to the study of welfare related issues in Europe.

Much remains to be done. For instance, the differences among countries are likely to be re-

lated to the countries' socioeconomic infrastructure and welfare systems, something that needs to be worked out in much greater detail than is currently done in the book. But much has been done, and the results should stimulate European economists to expand their study of the causes and consequences of poverty. One can only hope that enough U.S. researchers read this book and become interested in applying the new methodology. It should be very easy, and inexpensive, to add one or more of these subjective income evaluation questions to various ongoing survey activities. (The Survey of Income and Program Participation, SIPP, may be a good candidate). That would open up possibilities for comparative research that may lead to the cross-validation of conventional "objective" welfare measures and the new "subjective" ones. As it stands, the book deserves much attention on both sides of the Atlantic.

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Advanced industrial develop-

ing, relocation, and renewal. By DONALD A. HICKS. Lincoln Institute of Land Policy Book/OG and H series. Boston: Oelgeschlager, Gunn and Hain in association with the Lincoln Institute of Land Policy, 1985. Pp. xx, 321. \$35.00. ISBN 0-89946-196-4.

JEL 86-1286

In this book Donald Hicks seeks to demonstrate that the American economy has entered an era of development rather than one of decline, even though since the late 1970s or early 1980s "slow or no growth" has become "a common feature across several industries whose very expansion had (previously) defined the development of our industrial economy" (p. 3). This new era of "advanced economic develop-

ment" is characterized by fundamental restructuring and spatial repositioning of firms and industries.

Chapter 1 sketches the major arguments and presents summaries of the chapters to follow.

Chapter 2 focuses on reinterpreting evidence which has been frequently held to indicate industrial decline. Hicks makes several points: that the new era is associated with a transition from one set of production arrangements to another with no significant loss of a central role of goods production; that recessions may offer opportunities to accelerate this transition; and that there is, on balance, no evidence of any significant effect on income distribution, although the nature of work is being fundamentally transformed as we move from activities involved in physical production to an emphasis on creating, communicating and applying information.

Chapter 3 deals with the nature of industrial adjustment. The principal conclusion is that in the new era the most important changes are occurring *within* industries and firms as they restructure and relocate activities and as industrial subsectors experience unequal rates of growth. Arguing against the view that investment targets chosen by management to maximize profits bring socially undesirable results (the "capital versus community" position), he sees the system as responsive to the challenge of new technologies. "Restructuring, relocation, and renewal emerge as important competitive strategies as industrial activity filters out of old and into new physical settings, corporate structures, labor relations environments, and production technologies regimes" (p. 13). Evidence of the way those readjustments take place is found in an earlier study by the author of the transformation of the U.S. metalworking sector and in a brief review of the experience of two industries (one old and one new), steel and computer software.

Chapter 4 treats industrial and population location shifts among multistate regions, between metropolitan and nonmetropolitan areas, and within metropolitan areas. Hicks observes that locational changes have resulted in convergence in industrial structure among regions and to some extent between metropolitan and nonmetropolitan areas but have not as yet appreciably lessened the affinity of manufacturing for

metropolitan areas. Within metropolitan areas he observes a general tendency toward dispersal away from central cities and the development of multiple nodes of activity. As regards older central cities he sees population and employment contraction as processes that are reshaping form and function in a manner analogous to the way in which the processes of growth shaped urban economies in an earlier era.

Chapter 5 explores the local-regional features of industrial development by citing Hicks' earlier studies of high technology in the Texas economy, focusing largely on computer services. Although these new industries have relatively few locational constraints, heavy reliance on pools of appropriately skilled workers has resulted in firms locating principally in the largest metropolitan areas. Within the Dallas metropolitan area the large majority of computer service firms operate within the city of Dallas, and over the years relocation has tended to correspond to the larger patterns of change in real estate, residential and commercial development. Finally, an analysis of a succession of high tech firm cohorts starting up in the Dallas-Ft. Worth area from 1960 to 1980 reveals certain tendencies for dispersion and for greater job generation to occur as a result of small firm activity than large, although large firms continue to account for the bulk of total employment.

Chapter 6 treats the agricultural revolution, which Hicks sees as accompanying the new industrial revolution and as going far beyond earlier mechanization in altering production functions, especially in liberating agricultural production from traditional locational constraints.

Chapter 7 examines the difficulties faced by the local public sector under conditions of changing residential and commercial patterns of location. The central focus is on the heavy dependence of local governments on the property tax and the increasing constraints on the extent to which the current tax system can be expected to generate adequate revenues.

Essentially Hicks' analysis proceeds at two levels. The first is a highly optimistic interpretation of the recent experience of reduced growth and apparent industrial decline as one of restructuring and repositioning, resulting in com-

petitive strengthening of the economy and a clear net social gain. The other is a selective empirical analysis of locational rearrangements of firms and industries with special reference to large metropolitan areas.

At the first level, Hicks offers a suggestive, even provocative, interpretation of current development. Development is seen as a process of ceaseless change in which the economic health of a city or region is equated with its capacity to adjust. Yet development in the new era as well as the old proceeds in a highly uneven fashion, favoring some industries and firms as well as regions, cities and groups of workers while leaving others in distress over protracted periods. Hicks' failure to examine

in any depth the rise of services (especially producers' services) and the increasing internationalization of business, along with a more general failure to explain why the old era of growth was replaced by the new, leaves us with little guidance as to how to cope with such change. It is unrealistic to anticipate that an affluent democratic society will long tolerate such inequities without demanding some ameliorating public policy.

At the second level, the empirical analysis based on close observation of certain aspects of development within the Texas economy makes a useful contribution.

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New Books: An Annotated Listing

Classification System for Books

- | | |
|--|--|
| <p>000 General economics: Theory; History; Systems
 010 General economics
 020 General economic theory
 030 History of economic thought; methodology
 040 Economic history
 050 Economic systems</p> <p>100 Economic growth; Development; Planning; Fluctuations
 110 Economic growth, development, and planning theory and policy
 120 Country studies
 130 Economic fluctuations; forecasting, stabilization, and inflation</p> <p>200 Quantitative economic methods and data
 210 Econometric, statistical, and mathematical methods and models
 220 Economic and social statistical data and analysis</p> <p>300 Domestic monetary and fiscal theory and institutions
 310 Domestic monetary and financial theory and institutions
 320 Fiscal theory and policy, public finance</p> <p>400 International economics
 410 International trade theory
 420 Trade relations; commercial policy, international economic integration
 430 International finance
 440 International investment and foreign aid</p> | <p>500 Administration, Business finance, Marketing; Accounting
 510 Administration
 520 Business finance and investment
 530 Marketing
 540 Accounting</p> <p>600 Industrial organization; Technological change; Industry studies
 610 Industrial organization and public policy
 620 Economics of technological change
 630 Industry studies
 640 Economic capacity</p> <p>700 Agriculture, Natural resources
 710 Agriculture
 720 Natural resources
 730 Economic geography</p> <p>800 Manpower, Labor, Population
 810 Manpower training and allocation, labor force and supply
 820 Labor markets, public policy
 830 Trade unions, collective bargaining, labor-management relations
 840 Demographic economics
 850 Human capital, value of human life</p> <p>900 Welfare programs, Consumer economics, Urban and regional economics
 910 Welfare, health, and education
 920 Consumer economics
 930 Urban economics
 940 Regional economics</p> |
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Annotated Listing of New Books

Editor's Note

Our policy is to annotate all English-language books on economics and related subjects that are sent to us. A very few foreign-language books are called to our attention and annotated by our consulting editors or others. Our staff does not monitor and order books published, therefore, if an annotation of a book does not appear six months after the publication date, please write to us or the publisher concerning the book.

An index to the *Annotated Listing of New Books* will appear at the end of the *General Index* in the December issue.

000 General Economics; Theory; History; Systems

010 GENERAL ECONOMICS

DA, S., ET AL. *The science and praxis of complexity: Contributions to the symposium held at Montpelier, France, 9-11 May, 1984*. Tokyo, United Nations University, 1985. Pp. viii, 384. \$25.00, paper. ISBN 92-808-560-6. JEL 87-0340

Twenty-five papers from a symposium on the nature and behavior of complex dynamic systems and the phenomenon of complexity. The first section discusses various epistemological and theoretical aspects of complexity, such as simplifying complexity, the definition of complexity, the pervasiveness of complexity, and complexity and meaning. The second section comprises five papers written by practitioners from the point of view of their respective disciplines, including complexity and causality, consequences of complexity in economics, complexity of interdependence in living systems, and quantum and relativity. Section three deals with the complexity of natural systems, relating to society and the environment, complexity of ecological systems, and a concept of ecotechnology. Section four discusses complexity in the social sciences and its importance in political decision making, including complexity in sociology, management of complexity, and complexity and democracy. Concludes with an overview that charts the facets of complexity. No index.

CRNS, RALPH T. AND STONE, GERALD W. *Economics*. Third edition. Glenview, Ill., and London: Scott, Foresman, [1981, 1984] 1987. Pp. xxvi, 796. \$29.00. ISBN 0-673-16675-9. JEL 87-0341

Third edition of this introductory textbook in economics has been reorganized and revised to incorporate recent events and data. [See JEL no.

84-0632 for annotation of second edition.] Includes a discussion of the law and economics, Gramm-Rudman tax bill, structural versus cyclical deficits, industrial policy, and international variations in the velocity of money. The authors are at the Metropolitan State College and the University of Colorado at Denver. Glossary, name and subject indexes.

CLOSE, ARTHUR C. AND GILG, JOHN P., eds. *National directory of corporate public affairs 1987*. Fifth edition. Washington, D.C.: Columbia Books, [1983 . . . 1986] 1987. Pp. 767. ISBN 0-910416-62-1.

Provides a professional in the field of public affairs for people and media, from which the information is conducted. Contains a year-long review sources available to the public. The first is an alphabetical listing of 1,500 companies identified as having public affairs programs. Includes, where possible, address of the corporate headquarters, Washington address, political action committee, foundations, and publications. Summarizes philanthropic and public affairs activities. The second part is an alphabetical listing of some 11,500 corporate officials engaged in informational, political, and philanthropic activities. Also contains industry and geographic indexes.

EKINS, PAUL, ed. *The living economy: A new economics in the making*. London and New York: Routledge and Kegan Paul, 1986. Pp. xxiii, 398. \$49.95, cloth, \$15.95, paper. ISBN 0-7102-0946-0, pbk. JEL 87-0343

Thirty-nine essays resulting from the work of The Other Economics Summit (TOES), an independent, international initiative, seeking to de-

velop and promote a New Economics, based on personal development and social justice, the satisfaction of the whole range of human needs, sustainable use of resources and conservation of the environment." Most of the contributions are drawn from two TOES conferences in 1984 and 1985. Part 1 focuses on conventional economics' "obsession with economic growth." Papers discuss North-South issues, international debt, arms trade, and health implications. Questions current indicators of economic progress, such as the GNP. Part 2 presents a more detailed description of the philosophy of TOES. Part 3 presents plans for action, emphasizing increasing access to land, the use of cooperatives, and a new order of industrial priorities. Ekins is Director of The Other Economic Summit (TOES) and is an electrical engineer. Bibliography; index.

HILDRETH, CLIFFORD. *The Cowles Commission in Chicago, 1939-1955. Lecture Notes in Economics and Mathematical Systems series, no. 271.* Berlin; New York, London and Tokyo: Springer, 1986. Pp. 176. \$19.30, paper. ISBN 3-540-16774-9.

JEL 87-0344

A report on work conducted by the Cowles Commission for Research in Economics between 1939 and 1955. Reviews changes in the organization of the Commission. Outlines the work on simultaneous equations and covers the developments in the probability approach, identification, estimation and testing, applications, and theory and applications. Discusses research in activity analysis and related topics and later extensions and applications of work conducted by the Cowles Commission. Hildreth is a faculty member in the Department of Economics at the University of Minnesota. Index.

MANSFIELD, EDWIN AND BEIRAVESH, NARIMAN. *Economics USA.* New York and London: Norton, 1986. Pp. xvi, 593. \$29.95. ISBN 0-393-95508-7.

JEL 87-0345

Adaptation of the fifth edition of the introductory-level textbook, *Economics: Principles, Problems, Decisions*, by Edwin Mansfield. Basis of a multimedia education project developed under a grant from an Annenberg/Corporation for Public Broadcasting Project that integrates text, video, and audio; broadcast as a PBS television series. Can be used to accompany the telecourse, "Economics USA," or as a text in a traditional one-semester survey lecture course. Designed to use economic events in past and present U.S. history to teach basic principles; incorporates case studies throughout. Organized as follows: introduction; national income and output; money, banking, and

stabilization policy, economic decision making (firm, consumer, and society); distribution of income, and growth, the government, and international economics. In addition to the textbook, the elements of the complete telecourse include: a 28-part television series, telecourse study guide, text review guide, 28-part audio series, faculty manual, and test bank. May also be adapted for a two-semester principles course. Mansfield is Professor of Economics and Director, Center for Economics and Technology, University of Pennsylvania. Beiravesh is Vice-President of U.S. Services, Wharton Econometric Forecasting Associates, Philadelphia. Glossary; index.

MASON, EDWARD S. *The Harvard Institute for International Development and its antecedents.* Monographs on Development series. Cambridge, Mass.: Harvard University, Harvard Institute for International Development, Lanham, Md.: University Press of America, 1986. Pp. x, 97. \$8.50, paper. ISBN 0-8191-5553-5.

JEL 87-0346

An account of the antecedents of the Harvard Institute for International Development. Covers its early years as the Harvard Advisory Groups and the Development Advisory Service and describes the nature of teaching, research, and project formulation and appraisal. Also describes the overseas projects, teaching, and research conducted by the Harvard Institute for International Development. Mason is Thomas W. Lamont University Professor Emeritus, Harvard Institute for International Development. No index.

MCCLOSKEY, DONALD N. *The writing of economics.* New York: Macmillan; London: Collier Macmillan, 1987. Pp. viii, 63. Paper. ISBN 0-02-379520-4.

JEL 87-0347

Brief guide offering advice to improve clarity and readability in the writing of economics. Illustrates how the factual rules of rhetoric, style, grammar, punctuation, organization, word selection, and rewriting can contribute to the development of better writing skills for economists and social scientists. An earlier version appeared in the April 1985 issue of *Economic Inquiry*. McCloskey is Professor of Economics and of History, University of Iowa. Index.

QUARLES, SUSAN D., ed. *Guide to federal funding for social scientists.* New York: Russell Sage Foundation, 1986. Pp. xi, 382. \$19.95. ISBN 0-87154-699-X, pbk.

JEL 87-0348

Prepared by the Consortium of Social Science Associations. Purpose is to introduce new scholars to the various federal agencies that provide funding for research and training, and to inform established

scholars of alternative funding opportunities in federal agencies. Intended to serve individual academic researchers, nonacademic administrators and researchers, student advisors, and professional groups. Contains nearly 200 separate entries describing over 300 federal programs. Most entries contain names of appropriate contact persons, budget information, application and review procedures, funding mechanisms, and examples of funded projects. Also describes program's interests and priorities, the structure and organization of the social sciences in the federal funding arena, including descriptions of the relevant professional associations in various fields. Discusses academics and contract research, pointing out the importance of preparation, the proposal process, and details after a contract is awarded. Also contains some inside views of selected federal research funding agencies. The major portion of the Guide describes the many federal sources of research support. Also lists the five major federal statistical agencies and their data collections as well as federal and nonfederal information sources. Quarles is with the Consortium of Social Science Associations. Topical index; listing of fellowship and research awards.

SCITOVSKY, TIBOR. *Human desire and economic satisfaction: Essays on the frontiers of economics*. New York: New York University Press, 1986. Pp. xii, 209. \$45.00. ISBN 0-8147-7862-3.

JEL 87-0349

Fourteen papers (most previously published) deal with the relationship between economics and psychology. Part 1 is devoted to welfare and its distribution, and includes a discussion of inequality and the relationship between economic and human welfare. Part 2 explores rationality and its links to the Puritan ethic. Part 3 discusses the survival of capitalism and deals with a benefit of monopoly capitalism. Part 4 contains several papers related on the nature of economic progress, discussing changes in consumer tastes, the desire for excitement and for job importance, subsidies for the arts, the economy's impact on family and social relations, and the use of psychology in the history of economic thought. Scitovsky is Professor of Economics Emeritus, Stanford University. Name and subject indexes.

[SELDON, ARTHUR] *The unfinished agenda: Essays on the political economy of government policy in honour of Arthur Seldon*. Edited by MARTIN J. ANDERSON. London: Institute of Economic Affairs, distributed in North America by Transatlantic Arts, Albuquerque, New Mexico, 1986. Pp. xii, 152. \$15.95, paper. ISBN 0-255-36191-2.

JEL 87-0350

Collection of eleven essays in honor of Arthur Seldon's seventieth birthday, presenting a survey of liberal and neo-liberal economic thinking on the scope and limitations of government and the role of markets in formulating policy. Reviews Seldon's contributions over the past thirty years. The papers discuss: the need for advances in public choice theory; the welfare-redistribution policy dilemma since the end of World War I, the power of labor unions; the new anti-trust economics; the ideas and influence of Sir Arnold Plant, the contributions of Austrian economics; the importance of rational expectations in macroeconomics, the success and failure of econometrics, the success or failure of liberalism in the United States and Britain; and the moral imperative of the market. Anderson is with the Institute of Economic Affairs, London. No index.

See also, Book Numbers JEL 87-0360, 87-0361, 87-0373, 87-0398

020 GENERAL ECONOMIC THEORY

BENASSY, JEAN-PASCAL. *Macroeconomics. An introduction to the Non-Walrasian approach*. Economic Theory, Econometrics, and Mathematical Economics series. Orlando, Fla., London, Montreal and Tokyo: Harcourt, Brace, Jovanovich, Academic Press, 1986. Pp. xiii, 250. \$26.95, paper. ISBN 0-12-086426-6.

A review of non-Walrasian microeconomic to macroeconomic model only macroeconomic part of various labor wages and prices models and discuss to combat unemployment of payments. Part 4 consists of dynamic models and covers cost and demand inflation, the Phillips curve, and business cycles. Part 5 incorporates the role of expectations in macroeconomic models and covers non-Walrasian prices and perfect foresight and the employment effects and realism of alternative expectation schemes. Benassy is associated with the Ecole Normale Supérieure, Paris. Bibliography; index.

BOGAN, ELIZABETH CHAPIN AND KIRMAN, JOSEPH J. *Macroeconomics: Theories and applications*. St. Paul, Minn.: West, 1987. Pp. xviii, 569. ISBN 0-314-25867-1.

JEL 87-0352

Intermediate macroeconomics textbook that focuses first on issues and then shows how the different schools of thought help explain them. Emphasizes connections between economics and business

and finance. Special features include explanation of the connection of financial markets to the savings-investment process; discussion of recent institutional changes that affect the nature of, and demand for, money; the motivation behind the tax cuts of 1981 and 1986; and separate treatment of business fluctuations. Examines the perspectives of classicists, Keynesians, monetarists, supply siders, and neo-classicists and neo-Keynesians. Divided into seven parts: an introduction and the circular flow models and national income accounting; classical and Keynesian theory, emphasizing aggregate supply and demand; government, households, and business, finance and money; inflation and unemployment, fluctuations, growth, and policy; and the open economy. Bogni is a Professor of Economics and Kiernan is an Assistant Professor of Economics and Finance, both at Fairleigh Dickinson University. Instructor's manual, test bank, study guide, and transparency masters are available. Glossary, index.

- BROWN, C. V. AND JACKSON, P. M. *Public sector economics*. Third edition. Oxford and New York: Blackwell, [1978, 1982] 1986. Pp. xii, 512. \$60.00, cloth; \$24.95, paper. ISBN 0-631-14588-5, pbk.

JEL 87-0353

Third edition of a textbook on public sector economics. Changes from the previous edition include: more recent data on public sector trends, a fuller treatment of the state, the presentation of a theory of public spending growth, a discussion of public sector performance measurement, and revision of the chapters on taxation and poverty. [See JEL no. 83-0403 for annotation of the previous edition.] Name and subject indexes.

- BUBL, HANS ULRICH. *A neo-classical theory of distribution and wealth*. Lecture Notes in Economics and Mathematical Systems series, vol. 262. Berlin, New York and Tokyo: Springer, 1986. Pp. 146. \$17.50, paper. ISBN 3-540-16062-0.

JEL 87-0354

Develops a neoclassical model to study the impact of workers' and capitalists' objectives, i.e., the distribution of capital and income in general and its relation to wealth and economic growth. Surveys various models that use differential games to account for these objectives and finds that they show that the noncooperative game element will usually bring about inefficiency if there are no other mechanisms driving the systems toward the cooperative solution. Formulates a discrete economic model to derive and analyze optimal strategies for both worker and capitalist objectives and compares them in the noncooperative and cooperative case. Also modifies the model to consider per

capita values in addition to aggregate values. The concluding chapter discusses the results. Bubl is at the Institut für Wirtschaftstheorie und Operations Research, Karlsruhe University, West Germany. No index.

- CHERNIAK, CHRISTOPHER. *Minimal rationality*. Computational Models of Cognition and Perception series. Cambridge, Mass., and London: MIT Press, 1986. Pp. x, 161. \$19.95. ISBN 0-262-03122-1.

JEL 87-0355

A theory of the minimal rationality required to qualify a person as an agent, that is to have a cognitive system of beliefs, desires, perceptions, and actions. Part 1 discusses the conception of a minimal agent including minimal rationality, feasible inferences, and rationality and the structure of human memory. Part 2 is devoted to the epistemological implications of perceiving such a minimal agent as having fixed limits on cognitive resources. Discusses the implications of minimal rationality for the theory of knowledge and for the universal acceptance of "logic," the "special reasons requirement," and the limits for knowledge. Cherniak is a faculty member in the Philosophy Department at the University of Maryland. Index.

- COWELL, FRANK A. *Microeconomic principles*. New York: Oxford University Press, 1986. Pp. xi, 413. \$24.95. ISBN 0-19-520536-7.

JEL 87-0356

Designed for advanced students with some background in mathematics. Emphasis is on equilibrium theory. Begins with an analysis of production, followed by a discussion of the firm, the consumer, households, workers, and producers. Analyzes aggregation, general equilibrium, efficiency, and the equilibrium system. Also covers uncertainty, strategic behavior, incentives, and welfare. Throughout, mathematical language is used "... as an expository device and as a powerful method of proof." Reading lists and exercises are included at the end of each chapter. Appendices provide selected proofs and answers to exercises. Cowell is a Reader in Economics at the London School of Economics and Political Science. Index.

- DAY, RICHARD H. AND ELIASSON, GUNNAR, eds. *The dynamics of market economies*. Amsterdam and Oxford: North-Holland in cooperation with the Industrial Institute for Economic and Social Research, Stockholm; distributed in the U. S. and Canada by Elsevier Science, New York, 1986. Pp. x, 512. \$65.00. ISBN 0-444-87841-6.

JEL 87-0357

Eighteen papers, comments, and discussion from a conference dealing with the dynamics of decentralized market economies at Saltsjöbaden

near Stockholm in August 1983. Conference was sponsored by the Marcus Wallenberg Foundation for International Cooperation in Science. Papers focus on the workings and growth of decentralized economies and how their performance can best be improved by public policy. The book is divided into four parts: theories and models of dynamic economic systems, technology and innovation; institutions and markets; and general discussion and commentary. The contributors are mainly economists. Day is at the University of Southern California. Eliasson is with the Industrial Institute for Economic and Social Research, Stockholm. Index.

DEBRED, GERARD. *Mathematical economics: Twenty papers of Gerard Debreu*. Paperback reprint. Introduction by WEINER HILDENBRAND. Econometric Society Monographs series, no. 4. Cambridge, New York and Melbourne: Cambridge University Press, [1983] 1986. Pp. xii, 250. \$14.95, paper. ISBN 0-521-33561-2. JEL 87-0358

Paperback reprint. [See JEL no. 84-0019 for annotation. See JEL, September 1984 (Vol. 22, no. 3), p. 1116 for review.]

FARM, ANTE. *A model of the price mechanism*. Swedish Institute for Social Research series, no. 1. Stockholm: University of Stockholm, distributed by Almqvist and Wiksell International, Stockholm, 1986. Pp. 86. \$8kr 86.00, paper. ISBN 91-22-00834-9. JEL 87-0359

A synthesis of modern noncooperative decision theory and the tenets of classical demand and supply analysis for an examination of the price mechanism. Reviews the process of decentralized price setting, discusses noncooperative flexible pricing in a homogeneous market, and provides alternative views of oligopolistic pricing. Covers noncompetitive equilibria in atomistic markets, job search and effective labor supply, and effective labor supply and the optimal wage setting. A doctoral dissertation granted at the University of Stockholm. No index.

GILAD, BENJAMIN AND KAISHI, STANLEY, eds. *Handbook of behavioral economics*. Volume A. *Behavioral microeconomics*. Greenwich, Conn., and London: JAI Press, 1986. Pp. xxiii, 352. ISBN 0-89232-700-6. JEL 87-0360

Thirteen papers discuss topics in behavioral microeconomics. Part 1 deals with the methods and tools of behavioral economics. Part 2 is devoted to consumer behavior and discusses developments in consumer behavior research, advertising, and choices with alternatives. Part 3 discusses the theory of the firm and analyzes issues in entrepreneurial and managerial behavior, intrafirm and extra-

firm considerations in productivity, and industrial organization. The contributors are mainly economists. Gilad is Assistant Professor of Management and Kaishi is Professor of Economics at Rutgers University, Newark, New Jersey. No index.

GILAD, BENJAMIN AND KAISHI, STANLEY, eds. *Handbook of behavioral economics*. Volume B. *Behavioral macroeconomics*. Greenwich, Conn., and London: JAI Press, 1986. Pp. xxiii, 312. ISBN 0-89232-701-4. JEL 87-0361

Thirteen papers address topics in behavioral macroeconomics. Part 1 assesses impact of rational expectations on the analysis of inflation and business cycles and examines the behavioral characteristics of saving behavior. Part 2 deals with the relevance of behavioral insights to the formulation and impact of public economic policy. Part 3 is devoted to an analysis of the role of values and attitudes in the process of economic growth and development. Part 4 considers behavioral analysis of the stock market. The contributors are mainly economists. Gilad is Assistant Professor of Management and Kaishi is Professor of Economics at Rutgers University, Newark, New Jersey. No index.

HAMLIN, ALAN P. *Ethics, economics and the state*. New York: St. Martin's Press, 1986. Pp. x, 198. \$32.50. ISBN 0-312-26547-6. JEL 87-0362

Explores the relationships between ethics, economics, and the state. The author's approach involves philosophy, and ethics, as the starting point with individual and the institutional and ethical justification of rational view of rationalism, five major schools of thought: utilitarianism, Paretianism, liberalism, Marxian ethics. Considers various views of the state, describing alternatives for resolving tensions between rationality and ethics. Hamlin is a Lecturer in Economics at the University of Southampton. Index.

HILLIER, BRIAN. *Macroeconomics: Models, debates and developments*. Oxford and New York: Blackwell, 1986. Pp. x, 225. \$49.95, cloth. \$14.95, paper. ISBN 0-631-14143-X. JEL 87-0363

Intermediate undergraduate textbook examines major theoretical debates that have taken place since the publication of Keynes's *General Theory of Employment, Interest and Money* in 1936; focuses on the issues at stake in the controversies. Prerequisites are elementary algebra and geometry. Part 1 examines the classical model, Keynes's

reasons for denying its validity, and John Hick's IS-LM model as an interpretation of some of Keynes's ideas and as a tool for policy analysis. Part 2 develops the neoclassical synthesis and asks whether Keynes's model is a special case of the classical model dependent on the assumption of money-wage rigidity; also examines the response that the synthesis misrepresents the issues. Part 3 focuses on whether fiscal policy really matters and the roles of wealth effects and the government budget constraint in the "crowding out" debate. Part 4 considers the inflation-unemployment trade-off debate. Part 5 discusses whether macroeconomic policy really matters, i.e., the new classical macroeconomics, the activist-nonactivist debate, and the claim that a predictable, deterministic monetary policy can have no effect on real magnitudes in the economy. Part 6 examines the debate about whether it is possible to set fiscal and monetary policies independently from an exchange-rate target. Hillier is Lecturer in Economics, University of York. Bibliography; index.

[HUTT, W. H.] *W. H. Hutt: An economist for the long run*. Edited by MORGAN O. REYNOLDS. Chicago: Regnery Books, Gateway Editions for and in association with The Heritage Foundation, Washington, D.C., 1986. Pp. 160. \$7.95, paper. ISBN 0-89526-797-7. JEL 87-0364

A Festschrift in tribute to W. H. Hutt whose writings have followed classical economics and are highly critical of Keynes. His major contributions include the development of a comprehensive theory of idle resources, the concept of consumer sovereignty, and a theory of collective bargaining, all with an emphasis on the "free market." Consists of five essays, including two by the editor and one by Hutt on "The Principle of Social Justice." Hutt argues that justice "... is achieved and aggregate income from ownership of the community's aggregate assets is maximized when entrepreneurs are free to purchase assets of given attributes (or the services of assets) at the minimum prices needed to attain them." Other essays include: "Razing Keynes: An Economist for the Long Run" by Thomas Hazlett; "Economists and the Public Revisited" by Arthur Shenfield; "Collective Bargaining or Economic Pluralism" by Ralph Horwitz; and "On the Economics of the Colour Bar" by Morgan O. Reynolds. Also includes an interview with W. H. Hutt by Morgan O. Reynolds. Reynolds is a Professor of Economics at Texas A&M University. Includes a list of Hutt's publications. No index.

MILLER, MERTON H. AND UPTON, CHARLES W. *Macroeconomics: A neoclassical introduction*. Chicago and London: University of Chicago Press, [1974]

1986. Pp. xvi, 367. \$14.95, paper. ISBN 0-226-52623-2. JEL 87-0365

Second edition of a macroeconomics textbook offers an alternative to the standard teaching approach that premises equilibrium with a substantial amount of unemployment. Section one describes the full employment equilibrium path of a growing economy with flexible wages and interest rates. Subsequent sections deal with consumption and saving, government finance, money and the price level, and unemployment. Revised and expanded treatment is given to basic issues such as the work-leisure choice, human capital, consumption-saving decisions, the microfoundations of unemployment, macrotheory of short-run unemployment, the Phillips curve, stagflation, and rational expectations. Miller is Leon Carroll Marshall Distinguished Service Professor in the Graduate School of Business at the University of Chicago. Upton is Associate Professor of Economics at Rutgers University. A version suitable for IBM-compatible personal computers for a "hands-on" model of the underlying text is available. Index.

MOULIN, HERVÉ. *Eighty-nine exercises with solutions from game theory for the social sciences, second and revised edition*. Studies in Game Theory and Mathematical Economics series. New York and London: New York University Press; distributed by Columbia University Press, N.Y., 1986. Pp. x, 156. \$25.00, cloth; \$7.50, paper. ISBN 0-8147-5432-5. JEL 87-0366

Eighty-nine game theory exercises with solutions dealing with two-person zero-sum games; tactical exchanges of information; dominating strategies; sophisticated and perfect equilibrium, Nash equilibrium, stability of Nash equilibria; mixed strategies, correlated equilibrium; coalitional stability; the core; and threats and repetition. No index.

MOULIN, HERVÉ. *Game theory for the social sciences, second and revised edition*. English translation. Studies in Game Theory and Mathematical Economics series. New York: New York University Press; distributed by Columbia University Press, N.Y., [1981, 1982] 1986. Pp. xi, 278. \$30.00, cloth, \$14.50, paper. ISBN 0-8147-5430-9.

JEL 87-0367

Second edition of a graduate textbook presenting the key concepts of strategic game theory. [See JEL no. 83-0018 for annotation of first edition.] Part 1 is devoted to games in which each player has an optimal strategy such that the outcome of the game is deterministic. Part 2 deals with non-cooperative scenarios and covers dominating strategies, sophisticated and perfect equilibria, Nash equilibria and their stability, and mixed strategies.

by a differential game of more than two players and compares the results from previous chapters to derive explicit implications for prices, quantities, and the market structure. Computes characteristic examples using the model and finds that the extraction behavior of oligopolists depends on the cost structure, time horizon, and initial resource endowments. The general conclusion is that the market equalizes the oligopolists, i.e., their policies converge. Schäfer is at the Universität der Bundeswehr Hamburg, West Germany. Bibliography; no index.

STIGLER, GEORGE J. *The essence of Stigler*. Edited by KURT R. LEBUE and THOMAS GALE MOORE. Foreword by W. GLENN CAMPBELL. Stanford, Calif.: Stanford University, Hoover Institution Press, 1986. Pp. xxviii, 377. \$35.95. ISBN 0-8179-8461-5. JEL 87-0373

Published in honor of George Stigler's 75th birthday, this volume contains twenty-three essays, selected from Stigler's writings. The first part deals with Stigler's contributions to economics, with five essays concerned with the economics of minimum wage legislation, the division of labor, economics of scale, economics of information, and theories of economic regulation. The second part treats contributions to political economics, covering the intellectual and the marketplace, goals of economic policy, the economist and the state, economic and political competition, and the processes and progress of economics. Five additional selections make up the third part—contributions to industrial organization—covering a theory of oligopoly, the dominant firm and the inverted umbrella, economic effects of antitrust laws, the case of electricity as a study of what can regulators regulate, and the theory of regulation. Part 4 includes four contributions to the history of economic thought, such as a historical view of perfect competition, the theory of Fabian socialism, economics or ethics, and why the socialists have been winning. The last part with four essays represents the "wit" of Stigler. It covers the cost of model changes, John Kenneth Galbraith, demand and supply elasticities, and the history of truth in teaching. Leube is a visiting scholar at the Hoover Institution. Moore is a Senior Fellow at the Hoover Institution. Index.

STIGLER, GEORGE J. *The theory of price*. Fourth edition. New York: Macmillan; London: Collier Macmillan, [1942 . . . 1966] 1987. Pp. viii, 369. \$26.50. ISBN 0-02-417400-9. JEL 87-0374

Revised edition of an introductory textbook on the essentials of the theory of the allocation of resources and the determination of prices. Much of the book has been rewritten; main additions are

chapters on the economics of information and on the economic role of the state. Brief portraits of twenty major economists have been added. Specific topics include: prices and the enterprise economy, the theory of utility; pricing with limited supplies, supplies of productive services; costs and production, diminishing returns; returns to scale, the general theory of competitive prices, the theory of monopoly; oligopoly, cartels, and mergers, demand for productive services; rents and quasi-rents; wage theory, the size distribution of income, and capital and interest. Chapters conclude with lists of recommended readings and problems. Stigler is at the University of Chicago. Index.

[TARSHIS, LORIE] *International monetary problems and supply-side economics: Essays in honour of Lorie Tarshis*. Edited by JON S. COHEN and G. C. HARCOURT. New York, St. Martin's Press, 1986. Pp. viii, 162. \$27.50. ISBN 0-312-42293-8. JEL 87-0375

Seven essays in honor of Lorie Tarshis, a Keynesian economist, presently Chair of the Economics Department of Glendon College, York University, Toronto. Paul Wells wonders why Keynes felt that he had such a struggle to escape from old ideas when "he excelled at inventing new ones." Also examines how Keynes would cope with overvalued exchange rates. Ronald I. McKinnon discusses the role of foreign-exchange dealers, pointing out that the foreign-exchange market cannot be treated as if it were a market for ordinary flexibly priced commodities. Susan Howson and D. E. Moggridge contribute two essays dealing with the international monetary system. They address problems such as the operation, reform, and influences on domestic policies of the international system and the ramifications of the mobility of international short-term capital. Walter S. Salant discusses the claims of supply-side economics that it increases employment and reduces inflation and the international aspects of these claims. Tibor Scitovsky examines the U.S. personal saving rate. Michael M. Weinstein describes lessons that can be learned from the experiences of the 1930s with industrial planning and economic policy making. Cohen is Professor of Economics at the University of Toronto. Harcourt is University Lecturer in Economics and Politics at Cambridge University. Index.

See also: Book Numbers JEL 87-0349, 87-0354, 87-0428, 87-0462, 87-0464, 87-0469, 87-0470

030 HISTORY OF ECONOMIC THOUGHT; METHODOLOGY

FOLEY, DUNCAN K. *Understanding capital: Marx's economic theory*. Cambridge, Mass., and Lon-

don: Harvard University Press, 1986. Pp. viii, 183. \$20.00, cloth; \$8.50, paper. ISBN 0-674-92088-0, pbk. JEL 87-0376

Introduction to Karl Marx's economic theory as well as a guide to fundamental passages in Marx's writings on economics and to the overall structure of Marx's economic ideas. Specific topics include: labor, value, and money; the theory of capital and surplus value; production under capitalism; reproduction of capital; equalization of the rate of profit; division of surplus value; the falling rate of profit; the theory of capitalist crisis; and socialism. Foley is Professor of Economics, Barnard College, Columbia University. Index.

PUOSCHI, HARRY. *Michael Polanyi: A critical exposition*. SUNY Series in Cultural Perspectives. Albany: State University of New York Press, 1986. Pp. x, 354. \$44.50, cloth; \$14.95, paper. ISBN 0-88706-277-6. JEL 87-0377

A review of the contributions of Michael Polanyi—a physician, chemist, philosopher, and economist. Divided into four parts—following the physician approach—namely, diagnosis, prescription, treatment, and evaluation. Restates Polanyi's position in each part, together with the reasons for holding that position. Describes the indications of malaise in the modern mind and its causes, discusses Polanyi's approach to a study of the validity of science and knowledge, followed by an integration of Polanyi's ideas about generalizations, discovery, and verification. Describes Polanyi's case for the existence of "ontological hierarchies" and the meaningfulness of human achievement and the significance of human life. In the evaluation, the author touches on a variety of areas, including an analysis of diversities and dualism in Polanyi's writings. Prosch is at Skidmore College. Index.

STANFIELD, J. R. *The economic thought of Karl Polanyi: Lives and livelihood*. New York: St. Martin's Press, 1986. Pp. x, 162. \$25.00. ISBN 0-312-23658-1. JEL 87-0378

Intent is "to draw attention to the possibility and necessity of an economics that is more existential and human-centered than the conventional economics." Considers the work of Karl Polanyi as "an excellent start toward a new way of thinking about the economy and its place in society, of lives and livelihood." Credits Polanyi with arguing that beyond sufficient livelihood, preoccupation with more economic wealth "greatly erodes the quality of human existence." Reviews the life of Polanyi and presents a summary of his works and contributions, describing his socialism; his founding of *Co-Existence*, an interdisciplinary journal for the comparative study of economics; his concerns for val-

ues, ethics, and meanings in economic activity; and his contributions to anthropology. Discusses Polanyi's work on the methodology of economics, particularly general problems of methodology and historical problem of political economy, and his contributions to social and economic integration, the political economy of market capitalism, and industrialism and freedom. Stanfield is Professor of Economics at Colorado State University, Fort Collins. Index.

ZAREMBKA, PAUL. *Research in political economy*. Volume 9. A Research Annual. Greenwich, Conn., and London: JAI Press, 1986. Pp. vii, 252. ISBN 0-89232-661-1. JEL 87-0379

Eight papers discuss aspects of political economy in the Marxian tradition. They consider, the various definitions, usages, and conceptualizations of class in the literature of social analysis (Richard Wolff and Stephen Resnick), racial distribution of income, centering on an empirical analysis of the determinants of the incomes of white South Africans (Fred Curtis), a "noneconomistic" reading of the Marxian theory of value (Antonio Gallari), a Marxian framework for the analysis of wage determination using a case study of the Indonesian agricultural labor markets (Abbas Abdelkarim), the micro-macro dialectic as a basis for a Marxian microfoundation (Jonathan P. Goldstein), implications of the Yugoslav model for Marx's vision of socialism and vice versa (John E. Elliott and Joanna V. Scott), similarities between China and the Soviet Union (Park) and the social theories of socialist planning theory (Peters) are mainly at State University of

See also: Book Numbers 41

040 ECONOMIC HISTORY

CARRS-CROSS, ALIC. *The price of war: British policy on German reparations, 1941-1949*. Oxford and New York: Blackwell, 1986. Pp. x, 249. \$34.95. ISBN 0-631-14919-8. JEL 87-0380

An account of German reparations after World War II up to 1949, by one who took part in those negotiations. Begins with a historical review of the concept of reparations, citing four problems from the past—the transfer problem in assessing a country's ability to pay, the form of payment, the source of reparations funds, and the effects on popular opinion. Early and later wartime views are described, pointing out that the treatment of Germany was the subject of elaborate discussion in Britain long before peace was in sight. Details the

work of the Malkin Committee and traces discussions and developments from Yalta to Potsdam and to the final reparations plan. Discusses the latter in detail, noting its intent to institute a series of structural adjustments. Also discusses events after the plan, the fading out of reparations, and Soviet reparations from East Germany. Conclusions point to the difficulties faced among the four Western nations over administering reparations, especially the form of payment. Notes also that the ability to make any reparations payments is affected by the status of the international economy. Sir Alec Cairncross is Chancellor of Glasgow University. Bibliography; index.

CHAO, KANG. *Man and land in Chinese history: An economic analysis*. Stanford, Calif.: Stanford University Press, 1986. Pp. xii, 268. \$35.00. ISBN 0-8047-1271-9. JEL 87-0381

Posits that China was a market economy for more than two millennia before the 1950s and that its varying degrees of development and changing levels of technology reflect adjustments in economic choices by the Chinese people as a response to an increasing man-land ratio caused by the increase in population. Constructs a model and examines statistics of population and arable acreage and other data to analyze the economic consequences of this response. Examines the measurement of population and arable land, land fragmentation and distribution, the evolution of tenure systems, and agricultural technology in traditional China. A general conclusion is that an industrial revolution did not occur in China despite existing technology and skill because there was no demand for labor-saving devices; rather, the main problem was how to gainfully use an oversupply of available labor. Chao is Professor of Economics, University of Wisconsin, Madison. Index.

[COLEMAN, D. C.] *Business life and public policy: Essays in honour of D. C. Coleman*. Edited by NEIL MCKENDRICK AND R. B. OUTHWAITE. Cambridge; New York and Melbourne: Cambridge University Press, 1986. Pp. xiv, 263. \$44.50. ISBN 0-521-26275-5. JEL 87-0382

Eleven original essays pay tribute to Donald Coleman, Emeritus Professor of Economic History at the University of Cambridge, upon his retirement. Two themes are reflected in the essays: the operations and business values of businessmen in history and the factors that have shaped and influenced government policies. Topics covered by the contributors include: Piscatorial politics in the early Parliaments of Elizabeth I; marriage as business—early modern England; age and accumulation in the London business community—

1665–1720; the use and abuse of credit in early eighteenth century England; the forces behind the early settlement of Australia; the gentlemanly, business, and professional ideals in English literary culture; two pioneers in invisible exports—the Phoenix Fire Office and the Royal of Liverpool, 1800–90; the engineer in Victorian society; Bernard Shaw, Bertold Brecht, and the businessman in literature; British business and businessmen during the First World War; and the nationalization of coal, 1916–46. The contributors are mainly historians. McKendrick and Outhwaite both are Fellows of Caius College and University Lecturers in History, University of Cambridge. Index.

FRERIS, A. F. *The Greek economy in the twentieth century*. New York: St. Martin's Press, 1986. Pp. 226. \$29.95. ISBN 0-312-34724-3. JEL 87-0383

Examines Greece's economic history from the 1920s to the 1980s against the background of general economic and political developments. Begins with a discussion of the Asia Minor disaster (1920s), monetary problems, and the foundation of the Bank of Greece. Covers the decade of economic depression (1930s), the financial crisis and default, and developments in industry and agriculture, World War II, occupation and its aftermath; reconstruction and development during the period 1949–60; the absence of conditions for self-sustaining growth in the 1960s and 1970s, and the costs and benefits of Greece's accession to the EEC in 1981. A general conclusion is that a major reason that Greece's economic performance lags behind other European countries is that chances for industrialization were missed in the 1950s because of the absence of extensive state participation in reconstruction and development. Freris is Principal Lecturer in Economics, Department of Business and Management, City Polytechnic of Hong Kong. Bibliography; index.

HUDSON, PAT. *The genesis of industrial capital: A study of the West Riding wool textile industry c. 1750–1850*. Cambridge; New York and Melbourne: Cambridge University Press, 1986. Pp. xviii, 345. ISBN 0-521-25671-2. JEL 87-0384

Presents a study of a regional industrial sector during a period of marked change, focusing on finance, particularly the accumulation and "... polarization of wealth, a vital process in the growth of centralized, mechanized production." Provides insights into the emergence of industrial capitalism on a broader front, though focusing on the development of factory industry in Yorkshire. Finds parallels with the growth and finance of other consumer goods industries during the prefactory period. Be-

gins with a general historical analysis of capital accumulation, emphasizing its importance in the dynamics of economic growth. Criticizes economic analysis from the late nineteenth century until the 1950s for its emphasis on output and price at the expense of growth and finance. Discusses the debate about the relationships among capital accumulation, growth, and cheap labor. Reviews the sources of finance for early British industrialization. Examines specifically the West Riding wool textile sector, 1750–1850, to support generalizations about capital accumulation—the processes of capital accumulation, the importance of merchants in the building of factories, the role of landlords, the role of local banking, and the importance of reinvested earnings. Based on the author's Ph.D. Dissertation at the University of York (1981). Hudson is a Lecturer in the Department of Economic History, University of Liverpool. Bibliography, name, place, and subject indexes.

HUGHES, JONATHAN. *American economic history*. Second edition. Glenview, Ill., and London: Scott, Foresman, [1983] 1987. Pp. 604. \$32.95. ISBN 0-673-18350-5. JEL 87-0385

Second edition of an introductory textbook of American economic history. Contains new chapters on the post-World War II manufacturing industry describing the technological and market stagnation of the American steel and auto industries, updated tables, and the inclusion of improved data and material from books and journals published since 1982. [For annotation of the previous edition, see JEL no. 83-0617.] Sections contain introductory essays and lists of suggested readings. Hughes is at Northwestern University. Glossary, name and subject indexes.

NEUSCHATZ, MICHAEL. *The golden sward: The coming of capitalism to the Colorado mining frontier*. Contributions in American Studies series, no. 84. New York and London: Greenwood Press, 1986. Pp. xii, 301. \$37.95. ISBN 0-313-25104-5. JEL 87-0386

Focuses on the struggle between the Western Federation of Miners and the Colorado gold and silver mineowners at the turn of the century. Points out that the weapons of trade unions have changed to match the changing contours of the institutional "battlefield," especially since earlier activities were unprotected by legislation providing for the right of collective bargaining. Traces how the Western Federation went through phases from a militant economic approach, to a radical political one, and back to a bread-and-butter philosophy. Covers topics such as the environmental setting, the unionization of Colorado labor, the effects of the technical

revolution in mining, developments in labor relations, the rules of both labor and the owners, and the various strikes and their aftermath. Contends that theories of labor relations based primarily on the character of leadership are insufficient to explain the behavior of labor unions. Neuschatz specializes in the social impact of economic development and the history of the labor movement. Bibliography, index.

PARKER, WILLIAM N., ed. *Economic history and the modern economist*. Oxford and New York: Blackwell, 1986. Pp. xi, 105. \$17.95. ISBN 0-631-14799-3. JEL 87-0387

Five papers, four previously published, and five commentaries, most presented at the American Economic Association meetings in Dallas in December 1984. William N. Parker reviews the development of economics. Kenneth J. Arrow considers the interaction of economic theory and history, and Robert E. Solow argues for greater emphasis on economic history. Paul A. David and Peter Temin present case studies of computer terminals and telephone separations, respectively, to illustrate the interaction between economic theory and economic history. Comments by Donald N. McGloskey, W. W. Rostow, Gavin Wright, Charles P. Kindleberger, and William N. Parker discuss the relevance of history to past and future developments in economic theory. Parker is Professor of Economics.

SCHAPIRO, MORDEcai. *Economic-demographic growth and distribution in the United States: The Social Fabric, An Essay*. Monographs, vol. 1. London: JAI Press, 1986. Pp. xiv, 301. ISBN 0-89232-675-1. JEL 87-0388

Study examining factors that contributed to the settlement of the rural north of the United States. Examines the pattern of rural population growth in twenty-three states in this region during the period 1790 to 1900. Finds a basic pattern of population buildup as follows: initially, very low rates of population increase but, eventually, sustained rapid growth, to be followed by a slowing growth rate and then a stable population. Presents an analysis of fertility, using both theoretical and empirical models. Also discusses the theory of migration, using a gravity-type model based on 1950 census data. Combines a fertility model and a migration model into a settlement model and produces a control solution, contrasts its estimates with three scenarios—no European immigration, no rural-to-urban migration, and no decline in rural fertility.

Concludes that a probable explanation for the decline in birth rates was a decrease in the demand for children, which was associated with a growing scarcity of land. Also discusses implications for developing nations. Schapiro is a member of the Department of Economics at Williams College. Bibliography; index.

SHANIN, TEODOR. *Russia as a 'developing society.' The Roots of Otherness. Russia's Turn of Century.* Volume 1. New Haven and London: Yale University Press, 1986. Pp. xvi, 268. \$30.00, cloth; \$9.95, paper. ISBN 0-300-03660-4, pbk.

JEL 87-0389

First of a two volume study that looks at Russian society at the turn of the nineteenth century, attempting to untangle the different, yet related, themes of Russian history on its way to the revolutionary periods of 1905-07 and 1917-21. Chooses the Russian state, peasantry, and capitalism—the main power structure and way of living—as factors in Russian social determination. Focuses on the peasant economy and the general picture of Russia in a state of flux during this developmental period. Examines the morphology of Russian "backwardness" and the rhythms of Russian history that led to the revolutions "from below" and the transformations "from above," relating these events to "what we have learned since about the so-called 'developing societies.'" Presents basic information about Russia, such as the early historical origins of the contemporary Russian state, the formation of the empire, the organization of the peasant society, and the development of capitalism in Russia. Also examines major points of debate as they describe the peasant economy, the rural proletariat, the agrarian markets, the peasant economy modes of production, Russia's political economy, the sociopolitical structure, and the historical roots of the ideological and political dissent at the turn of the nineteenth century. Shanin is at the University of Manchester. Names and subject indexes.

SHANIN, TEODOR. *Russia, 1905-07: Revolution as a moment of truth. The Roots of Otherness: Russia's Turn of Century.* Volume 2. New Haven and London: Yale University Press, 1986. Pp. xvi, 379. \$30.00, cloth; \$9.95, paper. ISBN 0-300-03661-0, pbk.

JEL 87-0390

An analysis of the Russian revolution of 1905-07. Begins with the build-up of the major forces of the revolution—the struggle in the cities for political freedom and/or socialism and the struggle in the villages for land and liberty. Examines the social forces that came together in 1905-07, the surprise of the contemporaries who watched the revolution unfold, and the international ramifica-

tions of it. Describes the revolutionary forces, emphasizing the struggle for democratization and the battle for land and liberty. Examines the power and weaknesses of Russian state, the ethnic problems, and the urban class differences and confrontations. Details the peasant war of 1905-07, focusing on its contemporaries and the postrevolutionaries. Finally, discusses the lessons learned from this experience and the significance for the 1917-21 revolution. Shanin is at the University of Manchester. Name and subject indexes.

See also: Book Numbers JEL 87-0434, 87-0440, 87-0582

050 ECONOMIC SYSTEMS

FAGEN, RICHARD R.; DEERE, CARMEN DIANA AND CORAGGIO, JOSÉ LUIS, eds. *Transition and development: Problems of third world socialism.* MR/Censa Series on the Americas. New York: Monthly Review Press and Center for the Study of the Americas, Berkeley, 1986. Pp. 352. \$28.50, cloth; \$12.00, paper. ISBN 0-85345-705-0, pbk.

JEL 87-0391

Thirteen papers presented at two seminars regarding the problems of transition to socialism in small economies held in Washington, D.C., in October 1983 and Managua, Nicaragua, in September 1984. Two papers reject antarky as a development strategy for small, peripheral third world economies and one examines problems of agrarian reform, peasant and rural production, and the organization of production in the transition to socialism. Two papers reflect on the economic and political aspects of the Nicaraguan experience. One paper discusses U.S. imperialism, one examines the theoretical view of the role of the state, while two cover the role of ideology in the transition to socialism. Four papers analyze the politics of transition and cover issues of mass mobilization, organization, and participation. Also contains an introductory overview by the editors. The contributors are mainly social scientists. Fagen is Gildred Professor of Latin American Studies at Stanford University. Deere is Associate Professor of Economics at the University of Massachusetts at Amherst. Coraggio is Research Director at the Regional Coordinator of Socio-Economic Research (CRIES) in Managua. Bibliography; index.

KNOWLTON, WINTHROP AND ZECKHAUSER, RICHARD, eds. *American society: Public and private responsibilities.* Cambridge, Mass.: Harper and Row, Ballinger, 1986. Pp. x, 344. \$24.95. ISBN 0-88730-129-0.

JEL 87-0392

Thirteen papers presented at a symposium on the roles of government and the private sector at

Harvard University in March 1986. Part 1 outlines the historical factors that have shaped American attitudes toward the role of public authority. Part 2 reviews the causes for the present distribution of function and authority between government and the private sector and prescribes its reallocation among four kinds of institutional arrangements. Part 3 is devoted to an examination of the rules of government and the private sector toward environmental management, public policy toward cigarette smoking, the struggle against poverty, support of the arts, education, and science. Part 4 deals with the role of the corporation in the economy and the impact of government policy on economic performance. The contributors are mainly social scientists and public policy specialists. Knowlton is Henry R. Luce Professor of Ethics, Business and Public Policy and Zeckhauser is Professor of Political Economy, both at the John F. Kennedy School of Government, Harvard University. Index.

MOFFAT, ROBERT E. *Money and wealth in the affluent society: Some practical realities*. New York: Vantage Press, 1983. Pp. x, 195. \$13.25. ISBN 533-05607-1. JEL 87-0393

Appraises some issues related to money and wealth in Western society today. Proposes that the distinction between government-owned enterprise and privately owned enterprise has become meaningless for many purposes, and that a more useful approach is to examine "economic institutions" that support themselves from the proceeds of saleable products as contrasted with those that get financial resources from somewhere else. Also argues that recent price increases and inflation cannot be explained in terms of any cause, but must be looked at in terms of a weakening of the social and business reasons for resisting higher prices. Topics include: individual incentives for business, groups organized for business purposes, personal sources of money to spend, inflation, prices, factors tending to expand and reduce available purchasing power, willingness to spend, interest, and production. A general observation is that modern Western society is moving rapidly toward government control but is pretending it is moving toward private enterprise. Moffat is an economist and lawyer living in Canada. No index.

PRYOR, FREDERIC L. *A guidebook to the comparative study of economic systems*. Englewood Cliffs, N.J.: Prentice-Hall, 1985. Pp. x, 342. Paper. ISBN 0-13-368853-4. JEL 87-0394

Introduction to the field of economic systems, emphasizing empirical comparisons, particularly of East and West Europe. Explores two basic ques-

tions—the impact of an economic system or institution and the forces underlying the development and decline of particular institutions. Discusses topics such as goals, performance criteria, and policy instruments, economic growth and dynamic efficiency, economic stability, static efficiency and the allocation of productive resources, from both the nonprice and pricing mechanism perspectives, consumption and trade, factor allocation and the distribution of income, and economics of property relations. Most chapters contain summaries and suggested reading lists. Pryor is at Swarthmore College. Index.

See also: Book Numbers JEL 87-0357, 87-0379, 87-0446, 87-0525, 87-0597, 87-0621

100 Economic Growth; Development; Planning; Fluctuations

110 ECONOMIC GROWTH; DEVELOPMENT; AND PLANNING THEORY AND POLICY

COLMAN, DAVID AND NIXSON, FREDERICK. *Economics of change in less developed countries*. Second edition. Oxford, England: Allan, Totowa, N.J.: Barnes and Noble, [1978] 1986. Pp. ix, 445. \$31.50, cloth \$19.75, paper. ISBN 0-489-20570-5, pbk

Second edition covers, and empire have been rewritten. Material on inflation in centralized countries, an end of dependency, the and human resources. JEL 79-0372 for annotated and Nixon are both at ter. Author and subject index.

COMMONWEALTH SECRETARIAT. *Vulnerability: Small states in the global society. Report of a Commonwealth Consultative Group*. London: Author, 1985. Pp. vii, 126. £ 5.00, paper. ISBN 0-85092-280-1. JEL 87-0396

Report on the special economic problems of small nation states examines the characteristics and geographic setting of small commonwealth states and the nature of their vulnerability to threats to territorial, political, and economic security. Outlines strategies for reducing vulnerability through strengthening defense capability, improving prospects for economic growth, promoting internal cohesion, managing diplomacy and foreign policy, and measures undertaken under the aegis of inter-

national organizations. Identifies arenas for action and outlines policy measures at the national, regional and global level. No index.

DEGER, SAADET. *Military expenditure in third world countries: The economic effects*. International Library of Economics series. London; Boston and Henley, England: Routledge and Kegan Paul, 1986. Pp. xv, 288. \$34.50. ISBN 0-7102-0304-7.

JEL 87-0397

Analysis of the economic impact of military expenditure in third world countries. Discusses the ambiguity regarding the relationship between defense expenditure and economic growth and development and the nature of militarization and militarism. Summarizes problems and issues relating to data on military expenditure. Analyzes military expenditure within the government budgetary process and the short-term allocation effects of government revenue constraints. Examines the impact of military spending on saving, investment, and human capital formation. Reviews the military burden in an open economy and the role of arms production in newly industrializing countries. Assesses the role of defense spending on economic growth and socioeconomic development. Case studies supplement analytical material. Deger is an Economic and Social Science Research Council Fellow at Birkbeck College, University of London. Name and subject indexes.

HILL, POLLY. *Development economics on trial: The anthropological case for a prosecution*. Cambridge; New York and Sydney: Cambridge University Press, 1986. Pp. xiii, 198. \$34.50, cloth; \$10.95, paper. ISBN 0-521-31096-2, pbk.

JEL 87-0398

An economic anthropologist's critique of the stereotyped and overgeneralized premises of conventional development economics. Early chapters castigate economists for their treatment of all country people as peasants and their disregard of economic inequality, the poor quality of official statistics, and of historicist fallacies in a vain search for universal generalization. The rest of the book offers insights into economic inequality within rural communities; the poverty of statistics related to farming households; village credit systems; inheritance systems; farm laboring systems; migration; the role of women; the significance of land selling; and rural class stratification. Hill is a Fellow of Clare Hall, Cambridge University. Glossary; index.

[HIRSCHMAN, ALBERT O.] *Development, democracy, and the art of trespassing: Essays in honor of Albert O. Hirschman*. Edited by ALEJANDRO FOXLEY,

MICHAEL S. MCPHERSON, AND GUILLERMO O'DONNELL. Notre Dame, Ind.: University of Notre Dame Press for the Helen Kellogg Institute for International Studies, 1986. Pp. vii, 379. \$25.95. ISBN 0-268-00859-0.

JEL 87-0399

Nineteen essays originally presented at a conference at the University of Notre Dame in April 1984 in honor of Albert O. Hirschman. They consider the interplay of the political, economic, and social factors in society and reflect the theories and concepts of Hirschman, especially those pertaining to the formulation of a constructive approach for the reconciliation of development and democratic aspirations and the problems of the Latin American economy. Some specific topics are: linkages in the industrial development of petrochemicals in Brazil, the economics of fascism and nazism, American banking and the world financial crisis, the balance between stimulation and constraint in analysis of development, strategies for change and social learning processes, dismantling repressive systems, collective protest, the social scientist as constructive skeptic, the methodological basis of Hirschman's development economics, and critique of rational choice theories. The contributors include economists and other social scientists. Foxley holds the Helen Kellogg Institute Chair of International Development and is Professor of Economics, University of Notre Dame. McPherson is Professor of Economics, Williams College and Senior Fellow, Brookings Institution. O'Donnell is Academic Director, Kellogg Institute and Professor of Government and Sociology, University of Notre Dame. No index.

LOONEY, ROBERT E. *The political economy of Latin American defense expenditures: Case studies of Venezuela and Argentina*. Lexington, Mass., and Toronto: Heath, Lexington Books, 1986. Pp. xxii, 325. \$39.00. ISBN 0-669-12928-3.

JEL 87-0400

Analysis of the determinants and impact of Latin American defense expenditures. Part 1 determines the appropriateness of economic variables for examination of defense issues. Cross sectional analysis is conducted to determine the economic environment conducive for arms production, the impact of defense spending and arms production on economic growth, the budgetary process, and the defense and socioeconomic budgetary trade-offs in Latin America. Parts 2 and 3 present detailed analysis of the patterns, determinants, budgetary tradeoffs, and future trends in defense expenditures, in Venezuela and Argentina, respectively. Looney is Professor of National Security Affairs at the Naval Postgraduate School, Monterey. Bibliography; index.

LUTTRELL, WILLIAM L. *Post-capitalist industrialization: Planning economic independence in Tanzania*. New York and London: Greenwood Press, Praeger, 1986. Pp. xv, 189. \$42.95. ISBN 0-275-92310-X. JEL 87-0401

Presents an approach to development planning and strategy that was debated in Tanzania during the early 1970s but has not yet been implemented. Proposes to base development planning within the framework of an industrialization strategy specifically tailored to the needs and resources of the people in the affected country, without compromising the commitment to a complete, rapid, and self-reliant industrial revolution. Begins by sketching why the author believes that China and North Korea were the only colonies after World War II that were able to carry out a thorough industrialization of their economies. Discusses the failures of Cuba and Algeria to industrialize. Reviews the theory upon which planning methods are based and describes these methods. Using this analysis, presents a plan for the development of an integrated iron and steel industry for Tanzania, based on data for the economy for the years 1960-71. Criticizes planners for emphasizing agriculture and light industry resulting on imports for semifinished goods, plant, and equipment. Presents two perceived obstacles to industrialization—the political objections of international agencies and foreign-exchange costs. Luttrell is a Senior Economist with GATT-Fly, in Canada, an international project dealing with global economic development. Bibliography, index.

MIKESSELL, RAYMOND F. *Stockpiling strategic materials: An evaluation of the national program*. AEL Studies series, no. 431. Washington, D. C.: American Enterprise Institute for Public Policy Research, 1986. Pp. ix, 68. Paper. ISBN 0-8447-3588-4. JEL 87-0402

Integrates and evaluates the existing literature dealing with the National Defense Stockpile (NDS) programs as a basis for determining national policy, reviewing the history of the program and evaluating criticisms and proposals for legislative and administrative changes. The introduction describes strategic and critical materials, presenting data both on goals and current inventory. Presents a legislative and administrative history of the program, followed by a discussion of the national defense stockpile and its organization, policies, and programs. Reviews the major criticisms of the NDS program and discusses proposals for change and alternative solutions. Concludes that the objectives of the program are too limited in view of the present international environment and the defense responsibilities of the United States. Mikesell is a

Professor of Economics at the University of Oregon. No index.

SAU, RANJIT. *Economy, class, society*. Madras: Universities Press, distributed by Orient Longman, Hyderabad, India, 1986. Pp. xiv, 294. Rs 55.00, paper. ISBN 0-86131-426-X. JEL 87-0403

Ten essays, based on the author's lectures and published articles from 1981 to 1984, consider three interrelated themes: the methodology of political economy, the political economy of an underdeveloped country like India, and the international aspects of development and underdevelopment. Also reflects upon the present economic crisis in the world economy, the crisis in economic theory, and development strategy. Essays discuss: the methodology of political economy; the political economy of India; growth, stagnation, and fluctuation in the Indian economy; the role of the middle class in the underdeveloped country, world economic crisis and economic theory, international aspects of economic development; international division, subdivision, and fragmentation of labor, Africa's options in development strategy, the dialectical method in economics, and the development of capitalism in India. Sau is Professor of Economics, Indian Institute of Management, Calcutta. Bibliography, index.

See also: Book Numbers JFI 87-0404, 87-0405, 87-0406, 87-0407, 87-0408, 87-0409, 87-0410, 87-0411, 87-0412, 87-0413, 87-0414, 87-0415, 87-0416, 87-0417, 87-0418, 87-0419, 87-0420, 87-0421, 87-0422, 87-0423, 87-0424, 87-0425, 87-0426, 87-0427, 87-0428, 87-0429, 87-0430, 87-0431, 87-0432, 87-0433, 87-0434, 87-0435, 87-0436, 87-0437, 87-0438, 87-0439, 87-0440, 87-0441, 87-0442, 87-0443, 87-0444, 87-0445, 87-0446, 87-0447, 87-0448, 87-0449, 87-0450, 87-0451, 87-0452, 87-0453, 87-0454, 87-0455, 87-0456, 87-0457, 87-0458, 87-0459, 87-0460, 87-0461, 87-0462, 87-0463, 87-0464, 87-0465, 87-0466, 87-0467, 87-0468, 87-0469, 87-0470, 87-0471, 87-0472, 87-0473, 87-0474, 87-0475, 87-0476, 87-0477, 87-0478, 87-0479, 87-0480, 87-0481, 87-0482, 87-0483, 87-0484, 87-0485, 87-0486, 87-0487, 87-0488, 87-0489, 87-0490, 87-0491, 87-0492, 87-0493, 87-0494, 87-0495, 87-0496, 87-0497, 87-0498, 87-0499, 87-0500, 87-0501, 87-0502, 87-0503, 87-0504, 87-0505, 87-0506, 87-0507, 87-0508, 87-0509, 87-0510, 87-0511, 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Discusses financing economic growth and the role of the state and state enterprise and analyzes market prospects for exports in industrial country markets. Coauthors are Gerardo M. Bueno, Pedro Pablo Kuczynski, and Mario Henrique Simonsen. Balassa is a Visiting Fellow, Institute for International Economics, Washington, D.C. Index.

BARRADOS, JOHN P. *A key to the Canadian economy*. Lanham, Md., and London: University Press of America, 1986. Pp. x, 407. \$34.50, cloth. \$18.75, paper. ISBN 0-8191-5421-0, plbk.

JEL 87-0405

An introduction to the Canadian economy aimed at the general reader, economist, or student. Discusses money, banking, and monetary policy, the nature of Canada's fiscal system, Keynesian economics, and Canadian fiscal stabilization policy. Provides the background to, and discusses issues in, debt management. Analyzes the theory of inflation, the nature of inflation and past attempts at wage-price controls. Presents the background to international trade and discusses the process of the formulation of economic policy, the impact of the breakdown of the international fixed-exchange-rate system, and Canadian foreign-exchange, balance-of-payments, and foreign-investment policies. Barrados is an economic advisor to the Canada Post Corporation. No index.

BURKI, SHAHID JAVED. *Pakistan: A nation in the making*. Boulder, Colo., and London: Westview Press, Karachi: Oxford University Press, 1986. Pp. xiii, 226. \$28.00. ISBN 0-86531-353-9.

JEL 87-0406

Traces the history of Pakistan as an independent state from 1947 to the present. Examines its origins as a state created for the Muslims of British India with malleable frontiers, how it became divided into East and West Pakistan, and then in 1971 into Pakistan and Bangladesh. Overviews its political instability under various political systems over the years. Discusses the many different economic strategies Pakistan has tried since 1947, the problems the economy currently faces, its potential, and the policies of the Sixth Five-Year Plan (1983-88). Also discusses national social development and looks at foreign relations with India, Afghanistan, the United States, Third World, and Muslim World. Also considers Pakistan's possible development of a nuclear capability. Burki is Director, International Relations Department, World Bank. Bibliography; index.

GOMES, GUSTAVO MAIA. *The roots of state intervention in the Brazilian economy*. New York and Lon-

don: Greenwood Press, Praeger, 1986. Pp. xvii, 376. \$42.95. ISBN 0-275-92144-1.

JEL 87-0407

Argues that Brazil's history and society can be characterized by class exploitation as revealed by the extremely uneven distribution of income and property ownership. A further argument is that the dominant classes have almost always been able to use the state to maintain and expand their domination as reflected in the character of state policies and perpetuation of class exploitation. Reviews four centuries of economic and social transformation from Brazil's origins to 1930. Examines the industrialization period between 1930 and 1964 and the involvement of the state with the economy. Considers the economic policies implemented by the military regime that emerged from the overthrow of the Getulio government in 1964, i.e., dismantling the labor movement, wage policies, tax reform, and policies favoring the bourgeoisie. Based on the author's Ph. D. dissertation at the University of Illinois (1983). Gomes is a Professor of Economics, Federal University of Pernambuco, Brazil. Bibliography, name and subject indexes.

HARTLYN, JONATHAN AND MURLEY, SAMUEL A., eds. *Latin American political economy. Financial crisis and political change*. Boulder, Colo., and London: Westview Press, 1986. Pp. xiii, 386. \$38.00, cloth. \$16.95, paper. ISBN 0-8133-0329-X.

JEL 87-0408

Twelve essays and four commentary papers consider the major historical and contemporary determinants of the development crisis facing Latin America. Many of the papers were first presented at the International Conference on Models of Political and Economic Change in Latin America at Vanderbilt University in November 1983. Four papers provide comparative perspectives, they overview the political regimes and their economic performances; analyze the performance of bureaucratic-authoritarian regimes in Argentina, Chile, and Brazil; compare the adjustments of various countries to the oil shocks of 1973 and 1979; and examine the financial blowups that resulted from the neoliberal policies of the bureaucratic-authoritarian regimes in Argentina, Chile, and Uruguay, and the state-directed policies adopted in Brazil and Mexico. The following eight papers are case studies of Argentina, Brazil, Chile, Peru, Mexico, Colombia, Cuba, and Nicaragua. Hartlyn is Assistant Professor of Political Science and Murley is Professor of Economics, Vanderbilt University. Index.

KONAI, YUTAKA. *The era of high-speed growth: Notes on the postwar Japanese economy*. Translated by

JACQUELINE KAMINSKI. Tokyo: University of Tokyo Press; distributed by Columbia University Press, N.Y., 1986. Pp. xiv, 223. \$24.50. ISBN 0-86008-341-1. JEL 87-0409

Translated from the original Japanese edition *Kōdo seichō no jidai: Gendai Nihon keizai shi uōto* (1981), which also appeared as a monthly series of articles in the journal, *Keizai seimui*, from April 1978 to March 1979 under the title *The Course Taken by the Japanese Economy*. Examines and analyzes the history of the contemporary Japanese economy from 1945 until the early 1980s, contains some statistical updates from the 1981 edition as well as vignettes of cultural and political events of the postwar years. Topics considered include: the reconstruction period (occupation and reform; recovery and inflation; the Dodge Plan and the Korean War and its economic outcome, and the bases for economic growth), the rapid growth period (the technological revolution and its impact, income doubling and trade liberalization; and prosperity since the 1960s), and the changeover (the international monetary and oil crises and decelerating growth). A general conclusion is that the Japanese must risk all in an effort to obtain the raw materials that will secure tomorrow's prosperity for the Japanese economy. Kosai is a Professor at the Tokyo Institute of Technology. Bibliography, index.

LANG, TAN TENG. *Economic debates in Vietnam. Issues and problems in reconstruction and development (1975-84)*. Research Notes and Discussions Paper series, no. 55. Singapore: Institute of Southeast Asian Studies, 1985. Pp. vi, 60. \$9.95, paper. ISBN 9971-902-91-5. JEL 87-0410

Analysis of the problems and dilemmas faced by Vietnam in its attempt to promote reconstruction and development within a socialistic framework. Reviews Vietnam's economic development over the period 1954-74, the impetus during 1975-79 and the resulting economic crisis, the new economic policies instituted in 1979, and shifts and debates in policy implementation during 1980-84. Discusses the current options and prospects faced by the Vietnamese economy. Tan Teng Lang is a Senior Evaluation Officer with the Singapore Economic Development Board. Bibliography, no index.

MADDISON, ANGUS, ed. *Latin America, the Caribbean and the OECD. A dialogue on economic reality and policy options*. Development Centre Seminars series. Paris: Development Centre of the Organisation for Economic Co-operation and Development, 1986. Pp. 166. Paper. ISBN 92-64-12887-5. JEL 87-0411

Eight papers and summaries of discussions resulting from a seminar entitled, "Prospects for Latin America in the World Economy of the Eighties," at the OECD Development Center in Paris in June 1985. The seminar was organized in collaboration with the U.N. Economic Commission for Latin America and the Caribbean (ECLAC) and the Centre d'Etudes Prospectives et d'Informations Internationales (CEPII). Topics of papers are: a comparative analysis of economic performance and policy in Latin America and OECD countries, 1938-85, development and crisis in Latin America between 1950-84, medium-term scenarios for the future of Latin America; Caribbean development and the role of the Caribbean Development and Co-operation Committee of the ECLAC, bases for reactivation and development in Central America, the dynamics of world trade from 1967 to 1983, the Latin American transfer problem in historical perspective, and a possible international solution to the foreign debt problem. Also published in French. The editor is at the University of Groningen, the Netherlands. No index.

MONGIA, J. N., ed. *India's economic development strategies 1951-2000 A.D.* Dordrecht, the Netherlands, and Hingham, Mass.: Kluwer Academic, Reidel, New Delhi: Allied Publishers Private, 1985. Pp. xxxvi, 774. ISBN 90-277-2200-5. JEL 87-0412

Eighteen papers and strategies for and strategies for. The papers discuss strategies for over culture, population, fiscal management, control and price balance of payment, wages and incomes, profit, poverty, rural development, labor renewal, urbanization, and public administration and plan implementation. The contributors are mainly economists. Mongia is Economic Advisor to the Ministry of Works and Housing, Government of India. Index.

OLAYIWOLA, PETER O. *Petroleum and structural change in a developing country. The case of Nigeria*. New York and London: Greenwood Press, Praeger, 1987. Pp. xvii, 206. \$39.95. ISBN 0-275-92115-8. JEL 87-0413

Examines the political economy of Nigeria since 1860, focusing on its development since political independence in 1960. Argues that the lack of development in Nigeria, despite the petroleum-revenue-stimulated growth of the 1970s, is a result of a structural condition of underdevelopment. Pro-

poses that Nigeria has experienced growth without change and, as a result, has failed to establish the basis for internally directed political and economic development. Presents Nigeria's neoclassical development paradigm as well as ideas of third world development theorists and their structural criticisms of neoclassicism. Discusses development planning and its evolution in Nigeria, Nigeria's drive to independence, Nigeria in the 1960s and 1970s, and its present economic crisis caused by the oil bust. Makes recommendations for achieving economic self-reliance, discusses the lesson provided by the Nigerian petroleum experience for understanding development in the third world, and presents an agenda for a new Nigeria based on decentralization. Olayiwola is a Lecturer, Department of Government and Public Administration, University of Ilorin, Nigeria. Selected bibliography; index.

PATEL, I. G. *Essays in economic policy and economic growth*. New York: St. Martin's Press, 1986. Pp. xii, 261. \$35.00. ISBN 0-312-25940-9.

JEL 87-0414

Sixteen essays selected from the author's conference papers and lectures given between 1963 and 1985. Six address shorter-term management of the economy, including the limits of economic policy, trade and development, the balance-of-payments problem, a policy framework for Indian agriculture, inflation, and economic theory and policy. The following six essays consider aspects of economic growth and social justice: the strategy of Indian planning; social justice and economic development; productivity and economic growth, employment, growth, and basic needs; and poverty and free enterprise in the Jawaharlal Nehru era. The remaining four essays discuss aspects of international economic cooperation, including how to give aid, the economic aid relationship, the current crisis in international cooperation, and the climate and prospects for further international economic cooperation as of 1985. The author is Director, London School of Economics and Political Science. Index.

PERKINS, DWIGHT H. *China: Asia's next economic giant?* Henry M. Jackson Lectures in Modern Chinese Studies series. Seattle and London: University of Washington Press, 1986. Pp. x, 98. \$12.95. ISBN 0-295-96402-2.

JEL 87-0415

Two essays, based on lectures delivered at the University of Washington in October 1985, examine China's future role in the world economic system. One paper considers the role of economic policies, economic systems, and politics in a review of the East Asian development experience. The

second paper discusses the nature of reforms in China since 1977 and examines the prospects and conditions necessary for continued reform to investigate whether China is following the East Asian pattern of development. Perkins is H. H. Burbank Professor of Economics at Harvard University. Index.

PREBISCH, RAÚL. *La crisis del desarrollo argentino: De la frustración al crecimiento vigoroso*. Buenos Aires; Lima; Rio de Janeiro and Barcelona: El Ateneo, 1986. Pp. 195. Paper. ISBN 950-02-6293-2.

JEL 87-0416

Written in the form of a dialogue (in Spanish), this book presents questions concerning the evolution of the Argentine economy during recent years, stressing the importance of structural factors in the economic crisis. Explains how society crises have originated in social changes accompanying the evolution of technology and its contradictions. These changes express themselves in dynamic disequilibria, which affect the domestic economies of both the central and peripheral countries, as well as center-periphery relations. Analyzes external disequilibria criticizing recommendations that encourage trade and financial openness. Discusses center-periphery relations, within the context. Finally, deals with the crisis of conventional economic ideas and outlines policy recommendations. No index.

PRYOR, FREDERIC L. *Revolutionary Grenada: A study in political economy*. New York and London: Praeger, 1986. Pp. xx, 395. \$45.00. ISBN 0-275-92155-7.

JEL 87-0417

Analyzes the economy of Grenada, based on interviews with numerous key decisionmakers and examination of formerly classified government documents. Examines the People's Revolutionary Government of Grenada (PRG), noting its economic successes and failures. Details the development strategy of the island, quest for foreign aid, the foreign trade sector, tourism and agriculture as the leading sectors, other economic sectors, the organization of the system, macroeconomic performance, and a discussion of socialist organization in Grenada. Concludes that the succeeding governments will reap the benefits of the protoindustrialization efforts of the PRG and the advantages of the international airport. Approximately 150 pages of appendices present detailed research notes, statistical notes, and a discussion of U.S. foreign policy toward Grenada. Pryor is a Professor of Economics at Swarthmore college. Bibliography, index.

RAMOS, JOSEPH. *Neoconservative economics in the Southern Cone of Latin America, 1973-1983*. Johns

Hopkins Studies in Development series. Baltimore and London: Johns Hopkins University Press, 1986. Pp. xviii, 200. \$25.00. ISBN 0-8018-3040-0. JEL 87-0418

Compares the recent stabilization and liberalization experiences in Chile, Uruguay, and Argentina for the purpose of extracting lessons for the future. Explains the origins of neoconservative thinking in the Southern Cone and describes its theoretical postulates, basic diagnosis, and fundamental policy views. Describes the experiences of each country and evaluates them on the basis of principal results. Analyzes and evaluates the effectiveness of policies in the areas of price stabilization and adjustment, trade, and finance. Recognizes the validity of much of the neoconservative critique of the excessive government interventionism of the past, but finds that the main reason for the failure of the neoconservative model was the anti-interventionist biases of neoconservative policymakers and the low priority they attached to distributive issues. Concludes that the primary economic lesson provided by the experiences of these countries is the need to define and establish an appropriate balance between the roles of government and the market. Ramos is a Senior Economist, U.N. Economic Commission for Latin America and the Caribbean, Santiago, Chile. Bibliography; index.

RAVENHILL, JOHN, ed. *Africa in economic crisis*. New York: Columbia University Press, 1986. Pp. xiii, 359. \$35.00, cloth; \$13.00, paper. ISBN 0-231-06382-2. JEL 87-0419

Twelve papers assess various proposals aimed at finding solutions to Africa's economic problems. Papers discuss the nature of Africa's development crisis, the World Bank's strategy for accelerated development, the possibility of collective self-reliance, the debate over alternative development strategies for Africa, the food crisis, and Africa's role in the new international division of labor. Four case studies deal with industrial dependence and export manufacturing in Kenya; self-reliance in Tanzanian trade relations; Ghana's economic decline and development strategies; and the political economy of Zaire's debt. The contributors are mainly political scientists. Ravenhill is Senior Lecturer in Government at the University of Sydney. Index.

SINCLAIR, STUART W., ET AL. *Middle East economic handbook*. London: Euromonitor, distributed in the U.S. and Canada by Gale Research, Detroit, Mich., 1986. Pp. 487. \$80.00. ISBN 0-86338-126-X. JEL 87-0420

A handbook of information on the Middle East and sixteen Middle Eastern economies. Provides

a review of the Middle East in a world context and a regional overview of economic and demographic characteristics of these countries. Discusses the national economy, political structure, population and labor force, industry, agriculture, mining, energy, banking and finance, transport and communications network, health and education systems, and foreign trade of Algeria, Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Libya, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, and the United Arab Emirates. A fact file presents recent major economic indicators for these countries. The coauthors are Stuart Sinclair, Norman Bleetman, Paul Hackett, Trevor Maggs, and Michael Wilson. No index.

TAMAMES, RAMÓN. *The Spanish economy. An introduction*. New York: St. Martin's Press, 1986. Pp. xvi, 274. \$35.00. ISBN 0-312-74987-2. JEL 87-0421

English translation of the 16th edition of *Estructura Económica de España* (1985), which has been used as a textbook for Spanish students in the social sciences for many years. Clarifications for readers not living in Spain and a chapter on Spain's accession to full membership in the European Community in June 1985 have been added to this introduction to the Spanish economy. Specific topics include: economic habitat and population; the system of production; the agricultural sector; the industrial sector; and protection system (transport sector, national and international systems, social services, and the institutional system). Tamames is Professor of Economics, Department of Economic Structure, Faculty of Economics, University of Madrid. Select bibliography; index.

ZAKAI, DAN. *Economic development in Judea-Samaria and the Gaza District, 1983-84*. Jerusalem: Bank of Israel, Research Department, 1986. Pp. vi, 73. Paper. ISSN 0334-245X. JEL 87-0422

Translation of the Hebrew edition (1986). A report on the economic development in Judea-Samaria and the Gaza District during 1983-84. Outlines changes in the main economic indicators, public and private consumption, consumer prices, investment, construction, and population and employment. Also reviews sectoral developments and changes in the balance of payments. No index.

See also: Book Numbers JEL 87-0383, 87-0512, 87-0561, 87-0596, 87-0627

**130 ECONOMIC FLUCTUATIONS; FORECASTING;
STABILIZATION; AND INFLATION**

BRAUN, ANNE ROMANIS. *Wage determination and incomes policy in open economies*. Washington, D.C.: International Monetary Fund, 1986. Pp. xix, 380. \$18.50, paper. ISBN 0-939934-75-2.

JEL 87-0423

Examines the nature of wage determination and the problem of securing an economically appropriate development of money incomes in an open industrial economy under a fixed or flexible exchange rate system, focuses on the scope for incomes policy as an adjunct to fiscal and monetary policy. Part 1 surveys and evaluates the industrial countries' use of incomes policy since World War II. Part 2 considers the scope of incomes policy in theory and practice in the 1960s and 1970s as well as its relation to economic theory and the monetarist prescription of indexation of wages. Part 3 looks at wage bargaining institutions, incomes policy, and demand management since the 1960s by way of case studies of large economies (the United Kingdom, Japan, West Germany, and Canada) and of small economies (Austria, the Netherlands, and Norway). Proposes that the less favorable performance of the industrial economies during the 1970s and early 1980s has been largely a consequence of (1) the historical process of development in the industrial countries and (2) the implementation of macroeconomic demand management policies less appropriate for an integrated international system than in the 1960s. Braun was formerly an economist with the International Monetary Fund. Bibliography; no index.

BRITTON, ANDREW. *The trade cycle in Britain, 1958-1992*. National Institute of Economic and Social Research Occasional Papers, no. 39. Cambridge; New York and Sydney: Cambridge University Press, 1986. Pp. ix, 96. \$24.95. ISBN 0-521-32730-X.

JEL 87-0424

Considers the extent to which periodicity of economic indicators is systematic and significant or merely coincidental. Focuses on three tasks: (1) to bring the theory of periodicity up to date; (2) to define and measure periodicity, using recent British data and, for comparison purposes, recent U.S. and nineteenth-century British data; and (3) to explain the course of the trade cycle in Britain from 1958 to 1982. Reviews the mathematics of periodicity, discusses how periodicity may fit into contemporary trade-cycle theory, and examines statistical methods for dealing with time-series periodicity. Also reviews factors that affect periodicity such as changes in fiscal policy, inflation, and interest rates. Britton is Director of the National Insti-

tute of Economic and Social Research, London. Index.

ECONOMIC COUNCIL OF CANADA. *Changing times: Economic Council of Canada twenty-third annual review, 1986*. Ottawa: Supply and Services Canada, Canadian Government Publishing Centre, 1986. Pp. x, 96. \$6.95, Canada; \$8.35, elsewhere, paper. ISBN 0-660-12184-0.

JEL 87-0425

Annual review highlights key developments and assesses the medium- and long-term prospects of the Canadian economy, comparing them with the potentialities of growth of the economy; also provides an overview of research reported in the Council's other publications. Addresses three main themes: opening new markets and Canada's trade experience and opportunities; rethinking the role of key institutions and government in the regulation of financial institutions, taxation of the corporate sector, social policy, and health care; and reviewing recent and impending difficulties in major resource sectors. Focuses on the importance of adjustment to structural changes occurring in the nation. Concludes with suggestions for improving the functioning of the economy and well-being of Canadians. [See JEL no. 85-0404 for 21st annual review.] No index.

HENRY, E. W. *Multisector modelling of the Irish economy, with special reference to employment projections*. Dublin: Economic and Social Research Institute, 1986. Pp. 169. Ir£ 7.50, paper. ISBN 0-7070-0081-5.

JEL 87-0426

Analyzes the Irish economy and current economic problems by means of a multisector model and historic input-output data. Applies the model to the Irish government data of the Plan year 1987 to check the feasibility and consistency of the Plan's assumptions, results, and policies and to investigate the industrial and employment implications of the Plan. Also uses the model to project what high employment in a future year (i.e., 1992) would imply for exports, imports, GNP, and household and government expenditures. Also analyzes structural changes during 1968-82. General findings are: agreement between the model and Plan for GNP and imports, some disagreement on employment projections, and a large overestimate of government income by the model. Henry is a Research Professor with the Economic and Social Research Institute, Dublin. No index.

INTERNATIONAL MONETARY FUND. *World economic outlook: Revised projections by the staff of the International Monetary Fund, October 1986*. World Economic and Financial Surveys series. Washington, D.C.: Author, 1986. Pp. v, 112. Paper. ISBN 0-939934-78-7.

JEL 87-0427

shorter, updated version of the *World Economic Outlook*, April 1986 [see JEL no. 86-1060 for announcement of seventh annual review]. Examines economic developments in the first half of 1986 and finds them disappointing; however, the general assessment is that the weakness of activity in the first half of 1986 will give way to a stronger economic performance in the second half of the year and in 1987. Presents revised projections for 1986 and 1987 for industrial and developing countries and a revised scenario of economic prospects to 1990, reviews key uncertainties (industrial country recovery, risk of a reacceleration of inflation, weakness of primary commodity prices, and import compression in developing countries); assesses the implications of potential tensions regarding demand growth and sustainability in current account imbalances for the current stance of economic policies; and overviews issues on international cooperation. A statistical appendix of aggregate membership country data comprises about three-fourths of the book. No index.

GLIANI, FRANCO. *The debate over stabilization*. Raffaele Mattioli Lectures series. Cambridge, New York and Melbourne: Cambridge University Press, 1986. Pp. xiv, 271. \$29.95. ISBN 0 521 26790-0. JEL 87-0428

The first in a series of lectures given by distinguished economists and historians at the Luigi Einaudi University, Milan, organized by Banca Commerciale Italiana and in honor of Raffaele Mattioli,

Bank's chairman for many years. Consists of three lectures, summary of discussions, comments by Modigliani, and a biography of Modigliani. The first lecture—Keynesianism, monetarism, and the choice for and against active stabilization policies—suggests that there is a need for stabilization policies, that fairly successful stabilization policies are possible, and that the government can be trusted to exercise necessary discretionary power. The second lecture—aggregate demand and the control of the inflationary process, shows how aggregate demand policy can be used to eliminate inflation gradually,

that the question of choosing an optimal path must be faced. The third lecture reviews the monetarist system and its relation to the financial structure. The last lecture, on the accumulation of individual and national wealth and the role of social utility, examines the theory of the consumption function and the importance of capital accumulation. Modigliani is Institute Professor at Massachusetts Institute of Technology. Index.

AL-SAFAT, IMAD A. *An econometric model of Kuwait's monetary sector*. IBK Papers, Series no. 22. Safat,

Kuwait: Industrial Bank of Kuwait, 1986. Pp. 143. Paper. JEL 87-0429

An econometric model designed to aid in analysis of key monetary variables. Discusses features and problems of econometric modeling of less-developed countries, reviews previous econometric work on Kuwait, outlines issues in application and interpretation, and presents the hypotheses and estimation results. Also outlines certain extensions of the model. Moosa is Manager of the Research and Development International Investment Company. Bibliography, no index.

ROSE, DAVID E. AND SELUDY, JACK G. *The structure of the small annual model*. Technical Report series, no. 40. Ottawa: Bank of Canada, 1985. Pp. iii, 306. Paper. JEL 87-0430

Presents a detailed description of the structure and sectoral properties of the Bank of Canada's Small Annual Model (SAM) of the aggregate Canadian economy with complete wealth accounting for medium- to long-term simulation and analysis of aggregate foreign disturbances and domestic monetary and fiscal policy initiatives. Documents how it can be used in simulation with various policy prescriptions and assumptions about model structure. Overviews the background and unique features and presents various aspects of the model concerning: sectoral accounting and government finance, household choices (consumption, labor supply, and real money balances), production (output, factor use, and factor prices), trade (import and export supply and demand, and the determination of trade flows), and the determination of interest rates and prices. The authors are in the Bank of Canada. No index.

SAKSENA, K. D. *Pricing policy and price controls in developing countries*. London: Pinter, Boulder, Colo.: Rienner, 1986. Pp. xv, 240. \$30.00. ISBN 0-931477-85-9. JEL 87-0431

Analyzes some of the basic theoretical and practical issues that arise in the formulation and implementation of pricing policy and of a system of price controls in market economies, particularly with reference to developing economies like that of India. Examines the case for and nature, objectives, and general issues of pricing policy and the theory of price control. Considers: problems and issues in determining controlled prices, marginal vs. average cost pricing; the problem of the rate of return in price-controlled industries, and dual pricing. Also discusses aspects of price controls and pricing policy as well as growth, performance, and pricing

of public enterprises in India. Concludes with a discussion of the study's relevance for those concerned with the formulation and implementation of price control measures, particularly in developing or third world countries. Saksena is Joint Secretary to the Government of India, Planning Commission. Index.

STEWART, MICHAEL. *The age of interdependence. Economic policy in a shrinking world*. Paperback reprint. Cambridge, Mass.: MIT Press, [1983, 1984] 1986. Pp. 192. \$7.95, paper. ISBN 0-262-69103-5. JEL 87-0432

Paperback reprint. [See JEL no. 84-0730 for annotation of the first edition.]

VILARES, MANUEL J. *Structural change in macroeconomic models: Theory and estimation*. Advanced Studies in Theoretical and Applied Econometrics series, vol. 6. Dordrecht, the Netherlands: Martinus Nijhoff; distributed by Kluwer Academic, Hingham, Mass., and Lancaster, England, 1986. Pp. x, 260. \$70.50. ISBN 90-247-3277-8. JEL 87-0433

Aims to show that quantity rationing theory provides the means for improving macroeconomic modeling of structural changes, i.e., for multi-regime models. Posits a new approach for model specification that provides macroeconomic models with the facility to interpret endogenously any structural changes that may occur in an economy. Argues that non-Walrasian macroeconomics can provide a sound theoretical framework for the specification of the model; includes a critical survey of macroeconomic models with quantity rationing. Specifies a model based on the idea that shortages in demand, production capacity, and labor supply are the three bottlenecks in the activities of any firm and therefore in the levels of production and employment in the economy. Selects a capital vintage production function and examines and proposes the econometric techniques to be used in the estimation of the model. Uses the model in case studies of the Portuguese and French economies. Vilares is at the New University of Lisbon and Bank of Portugal, Economic Research Department. Bibliography; index.

WITHERS, WILLIAM. *Politics and economic policy: From Hoover to Reagan*. New York: Carlton Press, 1986. Pp. 240. \$10.95. ISBN 0-8062-2722-2. JEL 87-0434

Traces the history of the changes in economic policies in earlier presidencies and describes how the era of "Reaganomics" was reached. Examines critically the Reagan policies in an attempt to assess whether they will work, and if they do not, then

what programs will insure prosperity, increased production, and the elimination of excessive poverty in the future. Presents a rationale for weighing the consequences of governmental roles in economics, pointing to the failures of Adam Smith, John Maynard Keynes, communism, socialism, and free enterprise. Describes Reaganomics as the first change in economic policy since the New Deal, including lowering taxes, balancing the budget, reducing the economic role of the federal government, deregulating business, reforming the tax system, ending deficit spending, and emphasizing supply-side as contrasted to demand-side economics. Argues for governmental programs to help the disadvantaged and to restore and maintain competition. Concludes that capitalist stagflation will continue to be a problem, and that what "we need is first of all a new ideology, that treasures and seeks to restore freedom to the individual in a corporate society." Withers is Professor Emeritus of Economics at Queens College in New York City. No index.

See also: Book Numbers JEL 87-0405, 87-0418, 87-0480, 87-0502, 87-0567

200 Quantitative Economic Methods and Data

210 ECONOMETRIC, STATISTICAL, AND MATHEMATICAL METHODS AND MODELS

BITTANTI, S., ed. *Time series and linear systems*. Lecture Notes in Control and Information Sciences series, vol. 86. Berlin; New York, London and Tokyo: Springer, 1986. Pp. xvii, 243. \$26.40, paper. ISBN 0-387-16903-2. JEL 87-0435

Seven papers provide an overview of advanced topics in the modeling and identification of time series by means of linear systems. Discusses the use of stochastic models in time series analysis, linear errors-in-variables systems, dynamic models for stationary time series, predictive and nonpredictive minimum description length principles, deterministic and stochastic linear periodic systems, numerical problems in linear system theory, and certain recent developments in econometrics. The contributors are: Daniel Boley, Manfred Deistler, Edward G. Hannan, Michael J. McAleer, Giorgio Picci, Stefano Pinzoni, Jorma Rissanen, and the editor and are mainly statisticians. Bittanti is in the Department of Electronics, Milan Polytechnic, Italy. No index.

GRANGER, C. W. J. AND NEWBOLD, PAUL. *Forecasting economic time series*. Second edition. Economic Theory, Econometrics, and Mathematical

Economics series. Orlando, Fla.; London; Sydney and Toronto: Harcourt, Brace, Jovanovich, Academic Press, [1977] 1986. Pp. xiv, 338. \$49.50, cloth; \$24.95, paper. ISBN 0-12-295184-0, plbk.

JEL 87-0436

Second edition reflects some of the developments during the decade since the first edition in time-series analysis and forecasting theory and practice, particularly as applied to economics, such as acceptance of time-series procedures in mainstream economic theory, econometric model building, and causality testing. Major changes in the second edition involve the theory and application of multiple series modeling procedures and a review of more recent and advanced topics. Covers the theory of time series, spectral analysis, linear time series models, the theory of forecasting, univariate time series forecasting, forecasting from regression models, multiple series modeling and forecasting, building multiple time series forecasting models, and the combination and evaluation of forecasting models. [For annotation of the first edition, see JEL no. 77-0694.] Granger is with the Department of Economics at the University of California, San Diego. Newbold is with the Department of Economics at the University of Illinois. Author and subject indexes.

HARRISON, S. R. AND TAMASCHKE, H. U. *Applied statistical analysis*. Sydney: Prentice-Hall of Australia, 1984. Pp. xii, 547. \$32.95, paper. ISBN 0-7248-0034-4.

JEL 87-0437

An introductory textbook of applied statistical methods designed to fit the needs of students of economics and business in Australasia. Discusses the nature of statistics, the nature, collection, and presentation of data, and measures of central tendency and dispersion. Covers probability and probability distributions, theoretical sampling distributions, estimation, hypothesis testing, and the analysis of variance. Analyzes the preparation of sample surveys and the nature of sampling. Outlines linear and multiple regression, time-series analysis, decision theory, index numbers, and non-parametric statistics. One section details statistical developments in Australia and New Zealand. Appendices present statistical tables, details of derivations in the text, elementary mathematics, and matrix algebra. Each chapter contains several examples and exercises. The authors are at the University of Queensland. Index.

HJAB, O. *Stabilization of control systems*. Applications of Mathematics series, no. 20. New York; Berlin; London and Tokyo: Springer, 1987. Pp. xii, 129. \$32.00. ISBN 0-387-96384-7.

JEL 87-0438

Textbook for analysis of the "Adaptive LQ Regulator," a special instance of the problem of controlling or stabilizing a system of differential equations in the presence of random disturbances. Outlines basic linear systems theory, basic probability theory, and the construction of the stochastic integral. Discusses problems of filtering and analyzes the Adaptive LQ Regulator. Includes more than 120 exercises (with solutions in an appendix). Hjab is with the Mathematics Department at Temple University. Index.

JUDGE, GEORGE G. AND YANCEY, THOMAS A. *Improved methods of inference in econometrics*. Studies in Mathematical and Managerial Economics series, vol. 34. Amsterdam; Oxford and Tokyo: North-Holland; distributed in the U.S. and Canada by Elsevier Science, N.Y., 1986. Pp. xvi, 291. \$59.00. ISBN 0-444-87936-6.

JEL 87-0439

Analysis of advances in methods of estimation and hypothesis testing. Part 1 deals with the decision theory approach to the choice of estimators and reviews alternative measures of performance. Part 2 addresses inequality estimation and hypothesis testing for a variety of special linear statistical models. Part 3 considers the general statistical model with general linear restrictions. Part 4 examines some sampling results for the Stein family of estimators. Judge is at the University of Illinois and the University of Chicago. Yancey is at the University of Illinois. Index.

See also: Book Number

220 ECONOMIC ANALYSIS

ENGERMAN, STANLEY L. AND HODGSON, G. M. *Long-term factors in American economic growth*. Studies in Income and Wealth series, vol. 51. Chicago and London: University of Chicago Press, 1986. Pp. xi, 884. \$79.95. ISBN 0-226-20928-8.

JEL 87-0440

Fifteen papers and discussions presented at a conference on Long-term Factors in American Economic Growth held in Williamsburg, Virginia, in March 1984. Papers focus on the historical process of economic change in nineteenth and twentieth century United States, Canada, and British West Indies. Organized in four main sections: the national product—papers dealing with new estimates of Canadian GNP for 1870–1926 and measuring the transaction sector and transactions costs in the American economy, 1870–1970, capital and wealth—three essays covering U.S. capital stock in the nineteenth century, economic mobility of nineteenth century Utah households, and inheritance

in Butler County, Ohio, 1803-65; population and the labor force—six papers discussing marital fertility control, 1855-1915, the decline in U.S. household fertility, 1750-1900, nutrition and the decline in mortality since 1700, the female labor force and American economic growth, 1890-1980, early nineteenth century population and labor in the British Caribbean, and revised estimates of the U.S. workforce, 1800-60; and sectoral studies—four papers analyzing productivity growth in manufacturing in the American Northeast, 1820-60, output and productivity in Canadian agriculture, 1870-71 to 1926-27, changes in the Canadian railway sector, 1871-1926, and long-term trends in state and local finance in North Carolina, 1800-1977. Contributors are mainly economists and economic historians. Engerman is John H. Munro Professor of Economics and Professor of History at the University of Rochester. Gallman is Kenan Professor of Economics and History at the University of North Carolina. Author and subject indexes.

FRANZ, ALFRED AND RAINER, NORBERT, eds. *Problems of compilation of input-output tables: Proceedings of an International Meeting organized by the Austrian Statistical Society, Baden near Vienna, Austria, 19-25 May, 1985*. Schriftenreihe der Österreichischen Statistischen Gesellschaft, band 2. Vienna: Orac, 1986. Pp. 571. Paper. ISBN 3-85368-787-3. JEL 87-0441

Thirty papers examine compilation problems that arise in the production of input-output tables. In eight parts: the layout of I-O table frameworks, the role of I-O statistics within national statistical systems; reconciliation with national accounts, balancing procedures; methods of extrapolation and problems of intertemporal and international comparability; problems of valuation, construction of tables in constant prices, and the measurement of productivity; the role and use of basic statistics, and the integration of I-O tables with the international system of national accounts. The contributors are mainly statisticians. The editors are associated with the Austrian Central Statistical Office, Vienna. No index.

SLATER, PAUL B. *Large scale data analytic studies in the social sciences*. Santa Barbara, Calif.: University of California, Community and Organization Research Institute, 1986. Pp. 153. \$30.00, paper. JEL 87-0442

Twelve studies, nine published previously, examine the use of various analytical techniques to discern structural patterns in large data sets of socioeconomic relevance. Subjects and/or data sets explored are: residential sales prices, the petroleum trade in 1970, determination of groups of

functionally integrated industries, the network structure of the United States input-output table, comparisons of aggregation procedures for interaction data, global trade patterns, U.S. metropolitan mortality, U.S. intercounty migration flows, point-to-point migration functions and gravity model re-normalization, world population distribution, international migration and air travel, and citations between scientific journals. Slater is at the Community and Organization Research Institute, University of California, Santa Barbara. No index.

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT. *Yearbook of international commodity statistics, 1985*. New York: United Nations, 1985. Pp. xviii, 577. \$52.00, paper. ISBN 92-1-112215-5. JEL 87-0443

Second edition of disaggregated statistical series for the world, regional, and country levels for trade in selected agricultural primary commodities and minerals, ores, and metals, including production and consumption series for the latter. Contains additions, revisions, and some corrections to the first edition, as well as new tables covering various years from 1960 through 1983. Consists of summary tables on shares and trade values; tables on agricultural primary commodity trade in food and beverages and in agricultural raw material, and tables on minerals, ores, and metals statistics by regions and countries for aluminum, copper, iron, manganese, nickel, phosphate, sulphur, and tin. No index.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION. *Input-output tables for developing countries*. Volume II. New York: United Nations, 1985. Pp. ix, 316. \$21.00, paper. ISBN 92-1-106205-5. JEL 87-0444

Input-output tables for fourteen developing countries: Argentina, China (Taiwan Province), Egypt, Fiji, Guatemala, Haiti, India, Indonesia, Morocco, Nicaragua, Rwanda, Singapore, Thailand, and the United Republic of Tanzania. Most tables are for various years of the early 1970s. Also discusses problems of comparability, classification, and standardization. No index.

WESTFALL, GLORIA. *Bibliography of official statistical yearbooks and bulletins*. Government Documents Bibliographies series. Alexandria, Va.: Chadwyck-Healey, 1986. Pp. 247. ISBN 0-85964-124-4. JEL 87-0445

Bibliographic listing of national official statistical yearbooks and bulletins. Entries are arranged first according to major regions of the world: Africa, the Americas, Asia, Europe, and Oceania, and then according to countries within each region. Each

entry lists availability of information in the following categories: physical environment, demography, economic affairs, political affairs, and social and cultural affairs.

See also: Book Number JEL 87-0606

300 Domestic Monetary and Fiscal Theory and Institutions

310 DOMESTIC MONETARY AND FINANCIAL THEORY AND INSTITUTIONS

ATCHKASSOV, A. AND PREKSHIN, O. *Two worlds—Two monetary systems*. Moscow: Progress, 1986. Pp. 251. JEL 87-0446

Translated from the Russian. Comparative analysis of socialist and capitalist monetary systems and international monetary relations. Discusses the basic laws of development and the present structure of the capitalist monetary system and relations, the crisis of the system, and the foreign-exchange crisis. Examines the distinguishing features of the formation of the foreign-exchange and monetary system of socialism, the CMEA system of international settlements, international socialist credit, and the monetary system of socialism, and monetary systems of the U.S.S.R. and the United States. Discusses the main differences in organization of the Soviet and American banking systems. General conclusions are: that the capitalist world crisis has escalated since the collapse of the Bretton Woods system because the capitalist world has been unable to find an adequate substitute for gold as a cure for the existing or any new monetary system. Atchikassov is Deputy General Manager and Prekshin is Manager, U.S.S.R. Bank for Foreign Trade. No index.

BLACK, DEBORAH G. *Success and failure of futures contracts: Theory and empirical evidence*. Monograph Series in Finance and Economics, Monograph 1986-1. New York: New York University, Graduate School of Business, Salomon Brothers Center for the Study of Financial Institutions, 1986. Pp. 70. Paper. ISBN JEL 87-0447

Develops a model to explain the success or failure of new futures contracts, the framework synthesizes both commodity and contract characteristics. Reviews existing literature; specifies a model of the determinants of contract success, tests the hypotheses using a cross-section model of the average daily volume of trading for each innovation (as a measure of success) as a function of relative residential risk, liquidity of the cross hedge, cash price volatility, and cash market size; and uses the model to forecast success or failure of a new con-

tract. Finds that the model accounts for 85 percent of the variability in trading volume and that it could be used as a predictive tool in analyzing potential new contracts. Black is Assistant Professor of Economics, Hunter College of the City University of New York. No index.

BREALEY, R. A. *An introduction to risk and return from common stocks*. Second edition. Cambridge, Mass.: MIT Press, [1969, 1983] 1986. Pp. 188. \$7.95, paper. ISBN 0-262-52116-4. JEL 87-0448

Paperback reprint of the second edition. [For annotation of the second edition, see JEL no. 83-0780.]

CAMPBELL, COLIN D. AND DOUGAN, WILLIAM R., eds. *Alternative monetary regimes*. Baltimore and London: Johns Hopkins University Press, 1986. Pp. xi, 251. ISBN 0-8018-2887-2. JEL 87-0449

Six papers, each with two commentary essays, originally presented at a conference at Dartmouth College in August 1984. The introduction by the editors discusses the rational expectations approach and how the predictability of monetary policy may affect the attainment of the economic goals of full employment and price-level stability. Robert Barro analyzes the inherent logic of a purely discretionary regime. Anna J. Schwartz's paper summarizes the history of the gold standard and examines the proposal that the United States return to such a standard. Richard N. Cooper discusses the internal and external implications of the gold standard. The paper by Allan Meltzer discusses the monetary policy of the U.S. from 1890 to 1980, and the implications of money and price level for different regimes. David E. Laister discusses the very discretion of the Federal Reserve. Robert E. Hall proposes a new monetary regime. The authors are: Campbell is Loren M. Berry Professor of Economics, Dartmouth College. Dougan is Visiting Professor, Center for the Study of the Economy and the State, Graduate School of Business, University of Chicago. Index.

CLOWER, ROBERT W. *Money and markets: Essays by Robert W. Clower*. Paperback edition. Edited by DONALD A. WALKER. Cambridge, New York and Melbourne: Cambridge University Press, [1984] 1986. Pp. xv, 277. \$10.95, paper. ISBN 0-521-33560-4. JEL 87-0450

Paperback reprint. [See JEL no. 85-0757 for annotation. See JEL, September 1985 (Vol. 24, no. 3), p. 1247 for review.]

DAVIS, E. P. *Portfolio behaviour of the non-financial private sectors in the major economies*. BIS Eco-

nomic Papers series, no. 17. Basel, Switzerland: Bank for International Settlements, Monetary and Economic Department, 1986. Pp. 140. Paper.

JEL 87-0451

Analyzes the behavior of financial asset and liability accumulation and portfolio selection of the personal and company sectors, uses annual data for the period 1966-84 for stocks of financial assets held by these sectors in the United States, the United Kingdom, West Germany and Japan. Discusses the behavior of the size of sectoral portfolios over recent years and assesses econometrically the determinants of portfolio size according to the paradigm of a dynamic portfolio model. Considers recent developments in financial markets. Proceeds to analyze composition, determinants of portfolio distribution, and portfolio instability, and assess the significance and universality of trends in financial markets. Finds that despite differences in actual holdings, the underlying determinants of asset and debt holdings are broadly comparable across the four economies studied. Concludes that differences observed in portfolio holdings result largely from different financial conditions. Also available in French. No index.

FELDMAN, ROBERT ALAN. *Japanese financial markets: Deficits, dilemmas, and deregulation*. Cambridge, Mass., and London: Cambridge University Press, 1986. Pp. x, 245. \$27.50. ISBN 0-262-06104-X.

JEL 87-0452

Describes and analyzes domestic and international aspects of the process of financial market integration in Japan over the past fifteen years. The main theme is that, in both domestic and international markets, repeating cycles of market pressure, innovation, and deregulation occurred as a result of accumulating fiscal deficits and current account swings. Focuses on financial market accommodation and how market pressures, portfolio adjustments, disintermediations, and readjustments led to enhanced feedback throughout the financial system. Uses an econometric model built within the portfolio-balance framework to analyze innovation, deregulation, the loan market, and monetary policy. Considers different approaches to internationalization (regulatory, quantity, and price) and develops a model that modifies the portfolio-balance model by building a set of interlocking balance sheets with domestic and foreign assets and then adds internationalization as a new sector to the balance sheets. Concludes with a discussion of the future of the Japanese financial system and the benefits and costs of enhanced feedback and interest-rate arbitrage. Feldman is an economist at the International Monetary Fund. Index.

FIRTH, MICHAEL AND KEANE, SIMON M., eds. *Issues in finance*. Oxford: Allan; distributed in the U.S. and Canada by Humanities Press, Atlantic Highlands, N.J., 1986. Pp. x, 269. Paper. ISBN 0-86003-643-X.

JEL 87-0453

Intended to complement introductory and intermediate textbooks in finance, emphasizes the institutional setting and empirical research in Britain. Topics of the nineteen papers are: theories of modern finance (efficient markets, portfolio theory, capital asset pricing); corporate financial management (investment appraisal, corporate borrowing policy, dividend policy, required return on investment projects, equipment leasing, raising equity—the problem of setting the issue price, determinants of corporate bond yields, working capital management, option pricing, financial statement analysis, U.K. taxation and financial decision making, and valuation of shares); international corporate financing, implications and problems of recent empirical research in finance, and the current state of financial knowledge and likely future developments in academic research. Firth is Professor of Accountancy, University of Colorado. Keane is Professor in Business Finance, University of Glasgow. Index.

GOWDA, K. VENKATAGIRI. *Eradication of black wealth and black money (A scheme of monetary reform)*. World View Monograph Series, no. 1. Bangalore, India: World View Publications, 1986. Pp. xv, 130. \$5.00.

JEL 87-0454

Argues that the eradication of black wealth and black money (i.e., black market operations) is necessary if the authorities of India are serious about controlling inflation and meeting the objectives of the Seventh Five Year Plan approved by the Planning Commission in September 1985. Proposes a new scheme of monetary reform that would convert black money holdings into new currency to eradicate the stock of black wealth, eliminate spending financed from this source, and cause a fall in prices to the 1960 level. Discusses India's inflationary surge, estimates of black money, attempted remedies, existing remedies, and recent government reports and proposals. Gowda was formerly Professor and Head, Department of Economics, Bangalore University. No index.

GRADY, JOHN AND WEALE, MARTIN. *British banking, 1960-85*. New York: St. Martin's Press, 1986. Pp. xii, 232. \$29.95. ISBN 0-312-10041-8.

JEL 87-0455

Description and analysis of the evolution of the British banking system since 1960. Provides an overview of changes in the economy and in economic indicators during the period 1960-85. Discusses

risk and financial institutions as well as the changes in the control and supervision of the Bank of England. Describes the breakdown of the traditional banking system and the growth of the accepting houses, the new money markets, and other non-clearing banks. Analyzes the sources and impact of recent international problems and identifies major areas of instability. The late John Grady was a Director of Samuel Montagu Ltd. Weale is Research Officer in the Department of Applied Economics, University of Cambridge. Glossary; bibliography; index.

KROUSE, CLEMENT G. *Capital markets and prices. Valuing uncertain income streams*. Advanced Textbooks in Economics series, vol. 25. Amsterdam, Oxford and Tokyo: North-Holland, distributed in the U.S. and Canada by Elsevier Science, N.Y., 1986. Pp. xxi, 359. \$49.00. ISBN 0-444-87931-5.

JEL 87-0456

Textbook in economic analysis outlines the theoretical foundations of the valuation of uncertain income streams. Presents the theory of choice under risk and the achievement of equilibrium in a contingent commodity market economy. Discusses the nature of contingent claim market economies and of complete and incomplete security markets. Reviews efficient sets and linear pricing, and outlines the capital asset pricing model. Covers the relevance of production and capital structure in the theory of the firm, multiperiod consumption and investment, and multiperiod valuation. Krouse is at the University of California, Santa Barbara. Mathematical appendices, index.

MAYCOCK, JAMES. *Financial conglomerates: The new phenomenon*. Gower Studies in Finance and Investment series, no. 2. Aldershot, England, and Brookfield, Vt.: Gower, 1986. Pp. xiv, 106. \$48.50. ISBN 0-566-00820-3.

JEL 87-0457

Traces the development of financial conglomerates, particularly in the United States and the United Kingdom, over the past three decades, arguing that these institutions have become the rule rather than the exception; considers the factors—especially legal—that have encouraged their formation. Discusses the postwar U.K. financial system, how U.K. clearing banks began the conglomerate trend, competitive pressures, and international aspects. Also reviews other U.K. financial institutions, including insurance companies, discount houses, merchant banks, and the stock exchange. Describes the U.S. legislative framework and compares it with that of the U.K. Discusses the role of deregulation and presents several case studies of both bank lending companies and nonbank finan-

cial conglomerates. Also describes the situation in Australia, Canada, Japan, and West Germany. Finally, discusses the retailing of financial services, current issues and problems, and future perspectives. Concludes that conglomerate form of organization for financial institutions is mainly the outcome of the internationalization of trade and financial flows, rising standards of living, technological advance, and deregulation. Maycock is a former banker and currently is a consultant to the Institute of European Finance at the University College of Wales. Glossary, index.

SHADWIN OPEN MARKET COMMITTEE. *Policy statement and position papers, September 21-22, 1986*. Rochester, University of Rochester, Graduate School of Management, Center for Research in Government Policy and Business, 1986. Pp. 62. Paper.

JEL 87-0458

The September 1986 policy statement proposes that: the U.S. long-term problem is not the twin deficits in the government budget and trade imbalance, but that the United States must invest more in productive capital to increase productivity and consume less, eliminate the corporate income tax and substitute a broad-based consumption tax and reduce the growth rate of the monetary base to a rate consistent with price stability (3 to 4 percent). Three position papers discuss the economic outlook (Jerry L. Jordan), the future of the content of the Gramm-Rud-
Levy, and time concepts (Robert Rao).

SIMPSON, THOMAS D. *analysis*. Third ed. Prentice-Hall, [1986]. ISBN 0-13-600222

Third edition of a text [see JEL no. 81-0736 for annotation of the previous edition]. Because of their increasing similarities, banks and thrifts are discussed together rather than in different chapters. A new chapter has been added that discusses basic economic functions of depository institutions, such as their role in the monetization of debt, managing balance sheet disturbances, and managing credit risk. The chapter on money and monetary standards has been revised to include a detailed discussion of the evolution of payment systems, indicating how efficiency has come at the expense of greater risk. The chapter dealing with the depository and regulatory systems has been revised completely, focusing on the costs of providing depository services and other current policy issues. Also includes an updated discussion of off-balance sheet activities and interest

rate risk management; a discussion of securities dealers and pension funds; and a discussion of debt and GNP targeting. References, summary, key terms, and questions for thought and discussion at end of each chapter. Simpson is with the Federal Reserve Board. Index.

See also: Book Numbers JEL 87-0429, 87-0457, 87-0503, 87-0523

320 FISCAL THEORY AND POLICY; PUBLIC FINANCE
BROWNING, EDGAR K. AND BROWNING, JACQUELENE M. *Public finance and the price system*. Third edition. New York: Macmillan; London: Collier Macmillan, [1979, 1983] 1987. Pp. xvi, 537. \$29.00. ISBN 0-02-315720-8. JEL 87-0460

Third edition of an introductory public finance textbook that treats both government expenditure and tax policies. Requires no prerequisites but previous coursework in intermediate microeconomic theory may be helpful. Significant changes from the previous edition include: new sections on subsidies to higher education and value added taxation, expanded treatment of government deficits and poverty, new material on corporation and individual income taxes to reflect recent developments in tax policy, and end-of-chapter questions. [For annotation of the previous edition, see JEL no. 84-0436.] The authors are at Texas A&M University. Index.

GOSS, CHRISTOPHER. *Petroleum and mining taxation: Handbook on a method for equitable sharing of profits and risk*. Aldershot, England, and Brookfield, Vt.: Gower, 1986. Pp. xiv, 69. \$39.95, paper. ISBN 0-566-05269-5. JEL 87-0461

Guide to the application of U.K. Additional Profits Tax (APT) to mining and petroleum. Discusses the need for special taxation of mining and petroleum, the concepts involved in calculating APT, the step-by-step process of calculation, its features, some of its refinements and alternative forms, its advantages and disadvantages, alternatives to APT, and its use in practice. No index.

HERBER, BERNARD P., ed. *Public finance and public debt: Proceedings of the 40th Congress of the International Institute of Public Finance, Innsbruck, 1984*. Detroit: Wayne State University Press, 1986. Pp. xx, 363. \$40.00. ISBN 0-8143-1810-X. JEL 87-0462

Twenty-seven papers consider the purposes of government spending and the increase in public debt in both socialist and market economies in developing and developed nations. Major subject areas are: (1) macroeconomic and stabilization issues of fiscal deficits as generators of public debt; (2) issues of allocational efficiency as they relate to

public debt and are linked to economic stabilization; (3) interaction between public debt and the public choice process; and (4) intergovernmental public debt problems and policies. Some specific topics are: changing concepts of public debt in the history of economic thought; definition and measurement problems; public debt trends in the United Kingdom; the limit to deficit size in developing countries; indexation of government debt; government expenditure growth; intergenerational debt burden distribution; public enterprises and off-budget debt; and debt management in small open economies. The welcoming address and one paper are in French. The editor is at the University of Arizona. No index.

HOLTON, ROBERT J. AND TURNER, BRYAN S. *Talcott Parsons on economy and society*. New York and London: Routledge and Kegan Paul, 1986. Pp. vii, 276. \$50.00. ISBN 0-7102-0746-8. JEL 87-0463

This study of the contributions of the late Talcott Parsons grew out of a series of seminars in sociology at Flinders University, South Australia. Five essays by the authors and a contribution by Roy Fitzhenry reappraise Parsons's impact on modern sociology. Focuses on Parsons's outline of a map of the "social," which called for both defining the boundaries between society and organic life and describing the internal exploration of social relations between culture, personality, and social structure with the objective of application, extension, elaboration, and comparison. Examines Parsons's analysis of medicine in relation to society. Also discusses his views on religion, theology, and death in relation to the sociology of modern societies. Analyzes Parsons in terms of *Verstehen*—the methodology of subjective understanding—and its role in the concept of social action. Examines the many criticisms of Parsons and discusses Parsons's contributions toward sociology for a modern world, arguing that he was not an apologist for "cross economic individualism," but rather sought to determine the value inputs and normative rules that regulate economic life and prevent the unilateral operation of a utilitarian social order. Holton is Senior Lecturer in Sociology and Turner is Professor of Sociology, both at Flinders University. Bibliography of Parsons's works. Bibliography, index.

HYMAN, DAVID N. *Public finance: A contemporary application of theory to policy*. Second edition. Chicago; Montreal; London and Sydney: Holt, Rinehart and Winston; Dryden, [1983] 1987. Pp. xxi, 634. ISBN 0-03-007498-3. JEL 87-0464

Second edition of an introductory textbook in public finance. Changes from the previous edition

include: more graphic analysis, increased analysis of government expenditure programs, improved treatment of the theory of taxation; better coverage of income taxation; a new chapter on budget deficits; boxed analyses of important current issues, and end-of-chapter problems. [See *JEL* no. 83-0406 for annotation of first edition.] Hyman is at North Carolina State University. Glossary; name- and subject indexes.

KANTIL, RAJANI KANNEPALLI. *Political economy and laissez-faire: Economics and ideology in the Ricardian era*. Tutuwa, N.J.: Littlefield, Adams, 1986. Pp. 200. \$34.50. ISBN 0-8476-7488-6.

JEL 87-0465

Presents an interpretation of the economic theories and conflicts of early and mid-nineteenth century England. Examines classical use of laissez-faire as a technique for dismantling the existing political structure with its various regulations that inhibited unrestricted growth of capital. Analyzes economics as policy, describing classical economics as "in reality an empirically specific 'political' science of transition in the dynamic social context of early nineteenth century England." Cites the Poor Laws and the Corn Laws and the social classes they protected as crucial areas of interest for the classical economists who viewed these laws as "inefficient agencies in their scheme of social progress." Argues that in reality classical economics was an ideology in defense of bourgeois interests. Concludes that the philosophy of laissez-faire was "a uniquely efficient device in securing classical objectives." Originally written as a Ph.D. thesis at the New School for Social Research in 1980. Kanth is Assistant Professor of Economics at the University of Utah. Bibliography, index.

LANDAU, RALPH AND JORGENSON, DALE W., eds. *Technology and economic policy*. Cambridge, Mass.: Harper and Row, Ballinger, 1986. Pp. xvi+344. \$29.95. ISBN 0-88730-068-5. *JEL* 87-0466

First publication from the Program on Technology and Economic Policy, established at the Kennedy School of Government, Harvard University, in September 1984. Volume is based on the proceedings of a Conference on Technology and Economic Policy, held in Washington in 1985, convened to develop an understanding of the interrelationships between current issues in economic policy and technological innovation and emphasizing the impact of taxation on the rate of innovation, especially corporate income taxes and their effects on venture capital and capital costs. Also considers the impact of the federal deficit on the financing of new investment and technology. Fourteen essays cover topics such as: technology, eco-

nomics, and public policy; tax policies for the eighties; federal tax policy and the budget; corporate income tax reform, incentives and windfalls in corporate tax reform; tax policy influence on venture capital; attacks on capital gains taxation benefits, capital gains taxation and its incentive to growth, the accelerated recovery system, investment tax credit, capital cost recovery system, and neutral cost recovery system and their effects in an inflationary economy; budgets, deficits, technology, and economic growth, financing American investment in new technology, causes, effects, and remedies for the gap in the cost of capital, the relative impact of taxation and interest rates on the cost of capital, and the Treasury tax reform plan. The contributors are mainly economists. Landau is with Lastowel Incorporated and an adjunct Professor at the University of Pennsylvania. Jorgenson is the Frederic Eaton Abbe Professor of Economics at Harvard University. Index.

LEE, DWIGHT R., ed. *Taxation and the deficit economy: Fiscal policy and capital formation in the United States*. Foreword by MICHAEL J. BOSKIN. Pacific Studies in Public Policy series. San Francisco, Calif.: Pacific Research Institute for Public Policy, 1986. Pp. xxvii, 554. \$34.95, cloth. \$14.95, paper. ISBN 0-936488-13-1. *JEL* 87-0467

Eighteen papers concentrate on (1) the economic consequences of U.S. fiscal policy, especially regarding its consequences for capital formation, and (2) the politics of the fiscal process itself. Five papers consider the economic effects of taxation, seven discuss spending, deficits, and other forms of hidden taxation, and six discuss entrepreneurship in the private sector. The first two papers discuss the roles of taxation in the private sector. The last paper focuses on social rights versus social responsibilities. The reforms include: a new system with a tripartite structure, a new constitutional and federal budget and deficit financing, a new budget spending, consumption tax, a new scheme for the Social Security program, and reduction of military spending without compromising national security. The contributors are economists. The editor is Professor of Economics and holder of the Bernard B. and Eugenia A. Ramsey Chair of Private Enterprise, University of Georgia. Index.

LINDHOLM, RICHARD W., ed. *Examination of basic weaknesses of income as the major federal tax base*. New York and London: Greenwood Press, Praeger, 1986. Pp. xv, 320. \$37.95. ISBN 0-275-92148-4. *JEL* 87-0468

Eleven papers identify and examine the sources of economic instability and inefficiency of a federal tax system based on profits and income, and assess reform possibilities in light of the existing mismatch between the income sources of the U.S. federal government and its spending and management needs. Topics include: growth and failure of the income tax; federal individual income tax collection costs; the complexity, verbosity, and progressivity of the Internal Revenue Code; the value-added tax alternative; expanded income tax withholding; federal income tax evasion; the adjustability of the tax system; the underground economy in the United States and Western Europe; economic assessment of the president's 1985 tax reform proposal; the concept of income realization and deductible costs; and roots of the existing federal corporate income taxes. The contributors are taxation specialists. Lindholm is Professor of Finance and Emeritus Dean of the College of Business Administration, University of Oregon. Index.

LYBECK, JOHAN A. *The growth of government in developed economies*. Aldershot, England, and Brookfield, Vt.: Gower, 1986. Pp. xiv, 257. ISBN 0-566-05178-8. JEL 87-0469

Combines economics and political science in explaining the growth of government. Views the growth of government as the result of several societal interactions—between voters, elected bodies, interest groups, and the government. Examines significant increase in the public sector since the Second World War in the OECD countries. Presents a description of Sweden's experience with social and economic experiments. Discusses both short- and long-run causes for public expenditures and the growth of government and surveys constitutional restraints in various countries on the growth of government. Raises questions about voting rights and the principle of majority rule in democracies. Concludes that "... it appears rather meaningless to discuss limitations on the total size of the government sector. Instead, the discussion on demands of particular public goods and services and their financing should be focused on." Parts of the book constitute portions of the author's doctoral thesis in political science and several of the chapters have been published previously. Lybeck is Senior Vice President of SwedBank, Stockholm. Author and subject indexes.

MILLS, EDWIN S. *The burden of government*. Stanford, Calif.: Stanford University, Hoover Institution Press, 1986. Pp. x, 188. \$23.95. ISBN 0-8179-8281-7. JEL 87-0470

Economic analysis of the many roles governments play in contemporary societies. Explores,

using economic theory, what governments should and should not do to achieve desirable economic goals. Emphasizes the distinction between positive and normative economics, stating that most "of this book is about what private groups can do better than governments and what governments can do better than private groups." Presents a factual background depicting the growth of governments during the late nineteenth and twentieth centuries, focusing primarily on the United States. Analyzes social efficiency from the perspective of what governments need to do to achieve this objective. Examines the notion of equity, suggests governmental actions that would improve equity in the United States, and discusses the issue of optimum income distribution. Explores specific areas of government activity, including government macroeconomic policies affecting unemployment, inflation, and growth and the effects of both federal and state and local regulations. Describes the role of government in poor countries. Concludes that government "excesses impair social efficiency of the economy, slow economic growth, and make the economy less equitable than it should be. In the process, governments deprive citizens of precious economic and political freedoms." Mills is Professor of Economics at Princeton University. Bibliography; index.

PECHMAN, JOSEPH A. *The rich, the poor, and the taxes they pay*. Boulder, Colo.: Westview Press, 1986. Pp. xvi, 317. \$40.00. ISBN 0-8133-0376-1. JEL 87-0471

Presents the results of the author's research on the distribution of the U.S. tax burden and about the unique features of the federal tax system. Examines the distribution of the tax burden, 1966-85; individual income taxation; tax issues such as capital gains and losses, adjusting for inflation, consumption expenditure, taxes, value added taxation, and tax-based income policies; financing a federal system; income maintenance, with attention to its practicality and the New Jersey experience, Social Security; and a comparative review of tax programs abroad, particularly Japan and Great Britain. Concludes that the federal income tax is only mildly progressive and has not moderated income inequality to any significant degree. Finds that the system of transfer payments is highly progressive. Recommends an increase in the progressivity of the tax system. Pechman is a Senior Fellow and formerly Director of Economic Studies at the Brookings Institution. Index.

PETERSON, GEORGE F., ET AL. *The Reagan block grants: What have we learned? Changing Domestic Priorities Series*. Washington, D.C.: Urban In-

stitute Press, 1986. Pp. xviii, 134. Paper. ISBN 0-87766-400-5. JEL 87-0472

Part of a series of studies examining changes that are taking place in the nation's domestic policies under the Reagan administration. Examines the history of state and local programs folded into block grants for health and human services. Discusses funding for these programs from other sources. Presents an overview of the history of block grants and the Reagan approach. Indicates only minimal success to date, with only one initiative succeeding—the replacement of CETA by the Job Training Partnership Act of 1982. Attributes most of the failure of the program to the political concern that it means budget cutting. Cites transportation as a case where the block-grant proposal has not been considered on its intrinsic merits because it is linked to steep cuts for mass transit. Randall R. Bovbjerg, Barbara A. Davis, and Peterson all are with the Urban Institute. Eugene C. Durman is with the Environmental Protection Agency. Theresa Gillo is an analyst at the Congressional Budget Office. No index.

HOME, PARTHASARATHI, ed. *Fiscal issues in South-east Asia: Comparative studies of selected economies*. Singapore; Oxford; New York and Toronto: Oxford University Press, 1986. Pp. x, 237. \$32.00. ISBN 0-19-582655-8. JEL 87-0473

Eleven papers (three previously published) discuss topics relating to fiscal policy in countries of Southeast Asia. The papers in part 1 review the economic structure of these countries and discuss the nature of changes in the structure of taxation that occur with economic development. Part 2 deals with the impact of tax incentives for the promotion of investment and employment. Part 3 discusses the design and incidence of corporate income taxes, while part 4 examines agricultural, mineral development, and excise taxes. Part 5 covers the design, coordination, and impact of fiscal policy and social security institutions. Contributors are: Jonas N. Agell, Mukul Asher, Aune Booth, Sheetal K. Chand, Craig Emerson, Mark J. Ferron, Ved P. Gandhi, Ichiro Otani, Vito Tanzi, and the editor. Shome is an economist at the International Monetary Fund. Bibliography; index.

VIÑALS, JOSÉ. *Fiscal policy and the external constraint*. Documento de Trabajo, no. 8706. Madrid: Banco de España, 1986. Pp. 81. Paper. ISBN 84-505-3941-2. JEL 87-0474

Paper presented before the Economic Policy Panel in Paris in April 1986 studies the link between budget deficits and current account deficits from both theoretical and empirical points of view. Main conclusion is that this link is not automatic

and exists only when budget deficits are transitory and debt financed. Validates conclusion with empirical data for the United States, West Germany, France, Spain, and the United Kingdom. Asserts that the most important policy implication is that it is possible to manage fiscal policy to reach the desired internal balance goals without damaging the external position of the economy. Notes that high unemployment currently is the most important problem faced by European economies, having succeeded in reducing high rates of inflation. Considers both short- and long-run aspects, considering the divergences between private and social costs, the stickiness of wages and prices, the effects on financial markets, the influence of debt crisis and protectionism, and the problem of future flexibility. Viñals is with the Banco de España and Stanford University. No index.

See also: Book Numbers JEL 87-0392, 87-0473, 87-0614

400 International Economics

GONDOLF, EDWARD W., MARCUS, IRWIN M. AND DOUGHERTY, JAMES P., eds. *The global economy Divergent perspectives on economic change*. Boulder, Colo., and London: Westview Press, 1986. Pp. xvii, 212. \$28.50, paper. ISBN 0-8133-7188-0. JEL 87-0475

Nineteen papers discuss the implications for social and political institutions of the economic changes of the global economy. One paper presents a global economy. One paper presents views regarding the global economy and development, the impact of the steel industry on the global economy in terms of globalization. Eight papers discuss possible solutions to the major dilemmas created by the global economy. Topics include: the impact on labor, the social costs for women and blacks, and proposals for revitalization. Two papers assess these divergent perspectives and present an alternative to the global economy. The contributors are social scientists. Gondolf is Associate Professor of Sociology. Marcus is Professor of History, and Dougherty is Sociology Instructor, all at the Indiana University of Pennsylvania. No index.

[PATEL, SURENDRA] *World economy in transition: Essays presented to Surendra Patel on his sixtieth birthday*. Edited by KRISHNA AIKHOJA-PATEL, ANNE GORDON DRABEK, AND MARC NERFIN. Oxford: New

York; Toronto and Sydney: Pergamon Press, 1986. Pp. xix, 293. \$33.00. ISBN 0-08-031285-3.

JEL 87-0476

Nineteen essays in honor of Surendra Patel, formerly of the Technology Division of UNCTAD, on managing the changing economic and political relationships at the world level. Topics include: the dynamic role of the periphery; lessons of development economics; rise of the South-East and decline of the North-West; economic distance and the living standard; energy and international security in the 1980s; the North-South negotiation process; a Southern view of growth of world trade in manufactures; the global power of transnational conglomerates; African, Asian, and Latin American perspectives on development; and theory and policy of the transfer of technology. Many of the contributors are currently or were formerly associated with the United Nations. Ahooja-Patel is Editor of *Women at Work*, ILO, Geneva, Switzerland. Drabek is Managing Editor, *World Development*, Washington, D.C. Nerfin is President, International Foundation for Development Alternatives, Nyon, Switzerland. Index.

RESEARCH AND INFORMATION SYSTEM FOR THE NON-ALIGNED AND OTHER DEVELOPING COUNTRIES. *World economy in the mid-eighties: A report prepared as background document for the eighth summit of the heads of non-aligned states, Harare, 3-7 September 1986*. New Delhi: Author, 1986. Pp. xii, 222. \$25.00, paper. JEL 87-0477

Provides a developing country perspective of the current world economic situation. Part 1 overviews the world economy. Part 2 consists of reports on selected current issues (international monetary and financial systems, strategies and policies of multilateral institutions, reforms of the international monetary and financial system, issues and policy options related to trade in services, and an agenda for action regarding the African economic crisis). Part 3 contains a statistical profile of developing countries. No index.

410 INTERNATIONAL TRADE THEORY

See also: Book Number JEL 87-0404

420 TRADE RELATIONS; COMMERCIAL POLICY; INTERNATIONAL ECONOMIC INTEGRATION

DESTLER, I. M. *American trade politics: System under stress*. Washington, D.C.: Institute for International Economics; New York: Twentieth Century Fund, 1986. Pp. xiii, 366. \$18.00, paper. ISBN 0-88132-057-9. JEL 87-0478

Analyzes postwar United States trade policy and where it may be headed, as well as its roots and

political aspects. Focuses on the politics of imports. Assesses the interaction between Congress and the executive branch resulting from the former's delegation of responsibility for specific trade decisions. Also discusses the interactions between domestic and international considerations, the linkages between trade policy and exchange-rate determination and other macroeconomic policies, and the ties between trade economics and trade politics. Examines the erosion of trade policy over the past fifteen years, aggravated by the large U.S. trade deficits of these years. Considers future prospects for freer trade as it leak—with more negotiated barriers to imports and increased demands on foreign governments. Suggested prescriptions include attention to U.S. domestic macroeconomic policies, particularly the federal deficit; realignment of currencies and movement toward more structured cooperation on exchange rates, and changes in Congressional procedures. Destler is a Senior Fellow at the Institute for International Economics. Glossary, index.

DICKSON, BRUCE AND HARDING, HARRY, eds. *Economic relations in the Asian-Pacific region: Report of a conference cosponsored by the Chinese Academy of Social Sciences and the Brookings Institution, June 1985*. Brookings Dialogues on Public Policy series. Washington, D.C.: Brookings Institution, 1987. Pp. ix, 91. Paper. ISBN 0-8157-1841-1. JEL 87-0479

Excerpts from twelve papers and comments on trade patterns and economic trends in the Pacific Basin. Comments are organized into three units. The first deals with economic trends, including prospects for the developing economies of East Asia, the impact of Japanese and American economic policies, and North-South relations and protectionism. The second section examines Chinese domestic reforms and the open economy policy, including reforms in agricultural policy, industrial management, and planning undertaken since 1978 in the attempt to attract foreign trade and technology. The last section deals with implications for relations between the United States and China, noting the relative decline in the importance of strategic and military issues. Dickson is a Research Assistant and Harding is a Senior Fellow, both at the Brookings Institution. No index.

HASSE, ROLF H. *Econometrics in the service of economic interests: On the validity of the UNCTAD calculations of the trade effects of the Tokyo Round on developing countries*. Schriften zur Wirtschaftspolitik, Neue Folge, Band 3. Stuttgart, West Germany, and New York: Fischer; distributed in the

U.S. and Canada by VCH, Deerfield Beach, Fla., 1986. Pp. x, 102. DM 38.00, paper. ISBN 3-437-50308-1.

JEL 87-0480

Presents an analysis of the UNCTAD (United Nations Conference in Trade and Development) study, particularly its calculations, of the trade effects of the Tokyo Round on developing countries. Finds a bias in the UNCTAD study because it "is in UNCTAD's interest to demonstrate that since reduction in the most-favored-nation tariffs will lead to an erosion of preference margins the Tokyo Round will have an adverse effect on trade in industrial goods." Criticizes the UNCTAD calculations for containing gross errors, weaving standpoints of interested parties into the theoretical framework, and the selection of data. Carries out alternative calculations to reveal the scale of errors. Also criticizes the study for calculating only the static effects of tariff preferences and for failing to consider a variety of other factors, such as the use of weighted customs tariffs and the trade substitution effect. Argues that the Tokyo Round will have positive trade effects for developing countries, despite the erosion of trade preferences. Haas is a Professor at the University of the Federal Armed Forces Hamburg. Index.

HAUSER, HEINZ, ed. *Protectionism and structural adjustment*. Swiss Institute for Research into International Economic Relations, Economic Structures, and Regional Science series, no. 12. Grösch, Germany. Rüegger, 1986. Pp. 312. Paper. ISBN 3-7253-0277-4.

JEL 87-0481

Eleven papers and summaries of the session discussions of the third St. Galler Forschungsgespräche at the St. Gall Graduate School of Economics, Law, Business and Public Administration in September 1985. Published simultaneously as no. 2/3 of the 1986 volume of *Aussenwirtschaft*. Papers analyze the relationships between frictions in structural adjustment and protectionist pressures; a central theme is the politics of the formation of foreign trade policies in the context of domestic representation of special interest groups. Topics include: domestic policy foundation and function of international trade rules; the costs and benefits of protection; industrial and trade policy in a period of rapid structural change; trade protection in the United States; interest groups, government, and the politics of protectionism; rentseeking and trade protection; integration and protectionism; GATT surveillance of industrial policies; more efficient procedures for multilateral trade negotiations; trade policy as a constitutional problem; and international trade disputes and the individual. Contains abstracts in German. The editor is Professor at Schweizerisches Institut für Aussenwirtschafts-

Struktur-und Regionalforschung, University of St. Gallen. No index.

HUBBARD, MICHAEL. *Agricultural exports and economic growth: A study of the Botswana beef industry*. London: KPI, distributed by Associated Books, Routledge and Kegan Paul, London, Routledge and Kegan Paul Methuen, New York and Routledge and Kegan Paul, Methuen Law Book Company, North Ryde, Australia, 1986. Pp. xx, 284. \$25.00. ISBN 07103-0121-9.

JEL 87-0482

Examines the role of Botswana's cattle and beef export industry in the evolution of Botswana since 1900. Part 1 provides background on the international beef trade and cattle trade and cattle production in Botswana. Part 2 presents the history of the sector, characterizing it as a reserve industry on the South African periphery from 1900-49 and as a growth industry within a still peripheral economy from 1950 to the present. Finds that the expansion of cattle production in the postcolonial period was accompanied by growing social costs in terms of public resource allocation, resource use, and resource distribution. A conclusion is that the export-local subsistence conflict is a symptom of a land shortage. Hubbard is a Lecturer, Development Administration Group, Institute of Local Government Studies, University of Birmingham. Glossary, select bibliography, index.

C. D. HOWE INSTITUTE. *Policy harmonization: The effects of a Canadian Agreement*. Toronto: Author, 1986. Canada, Scarborough. \$12.00 paper. ISBN

Seven papers examine the effects of the establishment of a free trade area between Canada and the United States. Murray Smith and pressures on Canada to harmonize its domestic policies with the United States. D. J. O'Connell examines the implications of a free trade area for Canadian policy and fiscal sovereignty. J. H. O'Connell examines the impact of U.S. trade laws on Canadian economic policies, and Murray Smith outlines the implications of a free trade area agreement for Canadian commercial policy. Steven Globerman reviews certain trade issues that could complicate Canadian cultural support policies, while Richard Barchello and T. K. Warley analyzes the possible impact of freer trade on Canadian agricultural policies. Also contains an introductory overview by Lapsey and Smith. No index.

INCEAL, ANDRÁS. *Regional integrations in the new world economic environment*. Translated by KA-

HOLY KERNFESI. Budapest: Akadémiai Kiadó, 1986. Pp. vii, 286. \$29.00. ISBN 963-05-4353-2.

JEL 87-0484

Updated translation of *A regionális integrációk az új világgazdasági helyzetben* (1980). Examines the impact that changes in the world economic environment have had on regional economic integration, and how integration, while contributing to bringing about the changes, also fell victim to their consequences; reflects statistics as of 1981-82. Discusses attempts at regional economic integrations and world economic changes since 1973 relating to issues, trends of intraregional trade, development of monetary cooperation, security of regional self-sufficiency in raw materials and food supply, integrational industrial development, regional-level control of international capital flow, and external economic activities. Considers the place of regional integration in the world economic division of labor and future prospects of regional integration. General conclusions are that: the original goals and actual achievements of integration do not sufficiently coincide; not only the factors of production but also goods have different propensities for integration; and comparative advantages of member states do not necessarily coincide with those that could be derived from the international division of labor. No index.

JENTLESON, BRUCE W. *Pipeline politics: The complex political economy of East-West energy trade*. Cornell Studies in Political Economy series. Ithaca and London: Cornell University Press, 1986. Pp. 263. \$29.95. ISBN 0-8014-1923-9.

JEL 87-0485

Examines the extent to which United States and its NATO allies should trade with the Soviet Union and what constitutes power and how is this influence achieved. Presents the conceptual framework for the analysis of the politics of East-West energy trade. Examines East-West trade during the Cold War years (1945-53), assessing the impact of anti-Soviet sanctions. Reviews events such as the first period of growing East-West energy trade in the mid-1950s, the politics and policy consequences of the 1962-63 oil trade sanctions, the development of East-West trade in oil and natural gas in the 1970s, and the Western alliance and American domestic politics of the Reagan administration's sanctions against the Siberian natural gas pipeline, indicating both their intended and actual results. Reexamines the theoretical and policy issues of the East-West energy trade issue. Concludes that in none of the cases reviewed did the sanctions register "overwhelming success," primarily because the Soviets were able to counter them with regional integration and domestic industrialization. Jentle-

son is Assistant Professor of Political Science at the University of California, Davis. Bibliography; index.

KOESTER, ULRICH. *Regional cooperation to improve food security in southern and eastern African countries*. IFPRI Research Report series, no. 53. Washington, D.C.: International Food Policy Research Institute, 1986. Pp. 89. Paper. ISBN 0-89629-053-0.

JEL 87-0486

Review of attempts to improve food security in countries in South and East Africa. Outlines the cooperative approach of the Southern African Development Coordination Conference (SADCC) countries. Discusses the economic theory of integration and the prospects for integrating developing countries. Assesses the impact of integration schemes and examines the nature of obstacles to integration. Investigates the success of regional integration schemes at stabilizing consumption and promoting economic growth and food security. Outlines alternative schemes to stabilize food consumption within the SADCC region. Koester is Professor of Agricultural Economics at the University of Kiel. Bibliography; no index.

LAM, DAVID, ed. *Asian-Australia trade in manufactures*. Melbourne: Longman Cheshire, 1985. Pp. xii, 263. Paper. ISBN 0-582-71147-9.

JEL 87-0487

Twenty papers present the findings of a joint research project by ASEAN and Australian economists on the size, nature, and determinants of trade in manufactures between ASEAN and Australia. Analyzes both interindustry and intraindustry trade during the period 1968-82. Surveys ASEAN-Australia trade and intra-ASEAN trade. Explains patterns of trade in manufactured goods at the macro level by using the constant market share model and examining changes in the region's comparative advantage and trade intensities; estimates import demand functions and the elasticities of substitution for the most important import items for each of the six trading partners. Papers also present a qualitative analysis of the results of surveys of importers in each of the countries as to the factors determining trading patterns. The editor concludes that there is scope for increasing Australia-ASEAN trade. The contributors are mainly economists and statistics and development specialists. The editor is Dean and Professor, School of Modern Asian Studies, Griffith University, Brisbane, Australia. Index.

OVERTURF, STEPHEN FRANK. *The economic principles of European integration*. New York and London: Praeger, 1986. Pp. xiii, 173. \$35.00, cloth; \$12.95, paper. ISBN 0-275-92276-6.

JEL 87-0488

Explains, in light of its historical beginnings, the nature of the contemporary European Community (EC), the political pressures on its policies and institutions, and the economic forces that hold it together and pull it apart. Presents the historical background of European Integration, covering the pre-World War I, interwar, and post-World War II periods, with special attention to the European Coal and Steel Community and the European Economic Community. Also examines the various institutions used, such as the Council of Ministers, the European Parliament, and the Court of Justice. Discusses other economic aspects, including customs union theory, factor mobility and tax harmonization, monetary union, industrial policy, and common agriculture policy. Reviews trade relations with developing and more developed nations, with emphasis on tariff negotiations, as well as non-tariff barriers. Concludes with a discussion of regional policy and social policy. Overturf is Professor of Economics at Whittier College. Bibliography; index.

SALVATORE, DOMINICK, ed. *The new protectionist threat to world welfare*. Amsterdam and London: North-Holland; distributed in North America by Elsevier Science, N.Y., 1987. Pp. xvi, 581. \$55.00. ISBN 0-444-01084-X. JEL 87-0489

Twenty-six essays that represent an updated and enlarged version of a special issue of the *Journal of Policy Modeling* (1985). Topics are intended to achieve a balance between theory and empirical results, between the real and monetary sectors, and between the general and the specific. Organized in five parts as follows: An overview of the new protectionism, covering its revival and empirical results, international competitiveness, new protectionism, and welfare, dealing with the changing structure of U.S. trade, employment effects of Japanese and American protectionism and U.S.-Japanese trade frictions; industrial policy and industry studies, with emphasis on high technology, steel, and automobiles, monetary policy, exchange rates, and protectionism; and the new protectionism and economic development. The contributors are mainly economists. Salvatore is at Fordham University. Name and subject indexes.

SAXONHOUSE, GARY R. AND YAMAMURA, KOZO, eds. *Law and trade issues of the Japanese economy. American and Japanese perspectives*. Seattle and London: University of Washington Press; Tokyo: University of Tokyo Press, 1986. Pp. xx, 290. \$40.00. ISBN 0-295-96343-3. JEL 87-0490

Nine essays from a 1983 workshop on legal institutions and U.S.-Japanese economic relations, sponsored by the Committee on Japanese Eco-

nomic Studies. The first four papers examine the Japanese legal framework and domestic economy institutions: economic laws in policy response to economic change; antitrust and industrial policy from the perspective of competition and cooperation; product liability rules; and problems of administrative guidance versus formal regulation. Two papers discuss how foreign exchange controls and banking laws affect access to Japan's markets and the role of property law in bilateral licensing transactions between the United States and Japan. The last three papers deal with the American legal framework and bilateral issues, discussing U.S. laws offering assistance to firms hurt by foreign competition, the Trade Expansion Act of 1962, the case study of the machine tool industry, and the television industry. Contributors are Japanese and American officials, lawyers, and economists. Saxonhouse is Professor of Economics at the University of Michigan. Yamamura is Professor of Asian Studies and Economics at the University of Washington. Index.

SNAPE, R. H., ed. *Issues in world trade policy: GATT at the Crossroads. Papers presented at a conference of the Centre of Policy Studies, Monash University, Australia*. New York: St. Martin's Press, 1986. Pp. ix, 297. \$29.95. ISBN 0-312-43724-2. JEL 87-0491

Fourteen papers, most with comments, presented at a conference on international trade problems and policies at Monash University, Australia. Considered include: War II attempts to decline of the GATT; general GATT rules; multilateral arrangements; policies of the EEC; instruments to alleviate measures; protectionist policies, tariffs vs. import quotas; government procurement policy, and free trade zones; interplay of law and economics in international trade regulation; political economy of protection in eleven industrial countries; and trends in U.S. protection since 1930. Snape is Professor of Economics, Monash University. Index.

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT (UNCTAD). INTERNATIONAL TRADE CENTRE (UNCTAD/GATT (ITC)). *Handbook of state trading organizations of developing countries*. New York: United Nations, [1983] 1985. Pp. cxxviii, 542. ISBN 92-1-012014-0. JEL 87-0492

Second edition of a handbook containing a compilation of state trading organizations (STOs) of de-

veloping countries. Purpose is to serve as a tool for the promotion of their mutual business contacts and to provide information about these agencies to facilitate and extend mutual cooperation. Consists of two parts, with indexes in English, French, Spanish, and Arabic. Part one covers an alphabetical index of the STOs, technical notes, Standard International Trade Classification by section and division, products classified according to SITC codes and STOs involved in each, alphabetical glossary of products and their SITC codes, technical terms and their abbreviations, list of countries and regional groupings with corresponding ISO codes, ISO codes and regional groupings in the four languages, exchange rates for conversion from national currencies to dollars, and the four language versions of the headings of STO information sheets. Part two provides information sheets on individual STOs. Listings include alphabetical arrangement by country and details about each STO such as name, address, telephone number, date of establishment, major exports and imports and their values, and major markets and supplies. No index.

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT. *Operation and effects of the generalized system of preferences: Seventh and eighth reviews. Selected studies submitted to the Special Committee on Preferences at its eleventh session, Geneva, 3-11 May 1982 and at its twelfth session, Geneva, 24 April-4 May 1984.* New York: United Nations, 1985. Pp. vi, 99. \$12.50, paper. ISBN 92-1-112202-3. JEL 87-0493

Seventh and eighth general reports on the operation of the generalized system of preferences, an evaluation of its trade effects, and a discussion of the implications of future changes in the Customs Co-operation Council Nomenclature on the generalized system of preferences. The reports review changes and improvements in the system, its trade effects, its role in the context of international trade relations, and technical assistance under its auspices. The evaluation by Craig R. MacPhee estimates the trade benefits of the schemes of generalized preferences employed by the EEC and Japan for the period 1970-75. No index.

WINHAM, GILBERT R. *International trade and the Tokyo Round negotiation.* Princeton, N.J.: Princeton University Press, 1986. Pp. xiv, 449. \$45.00, cloth; \$13.50, paper. ISBN 0-691-17725-8.

JEL 87-0494

A political history of the Tokyo Round international trade negotiations of 1973-79, the seventh and largest of a postwar series of GATT multilateral negotiations. Analysis is based on personal inter-

views, government documents, and secondary sources. Begins with an introduction to the Tokyo Round, outlining the difficulties of the unfavorable trade climate in which it occurred. Describes the process of creating a collective decision-making system. Reviews the early phase and the resolution of the problem in agriculture, the middle phase and the Bonn economic summit, the end phase and the code and tariff negotiations. Discusses the internal decision-making procedures in the United States, the EEC, Japan, and Canada. Evaluates the process and its results. Concludes that things have not gone well for the world trading system since the Tokyo Round and that the greatest concern is how to maintain the liberal consensus that might promote an "open and mutually beneficial international economy into the future." Winham is Professor of Political Science at Dalhousie University, Halifax, Canada. Bibliography; index.

See also: Book Numbers JEL 87-0443, 87-0474, 87-0487, 87-0555, 87-0560, 87-0575

430 INTERNATIONAL FINANCE

ALIBER, ROBERT Z. *The international money game.* Fifth edition, revised. New York: Basic Books, [1973 . . . 1979] 1987. Pp. xii, 372. \$19.95, cloth, \$9.95, paper. ISBN 0-465-03383-0, pbk.

JEL 87-0495

Fifth edition of a popular review of the international monetary system, which presents technical issues with minimal use of specialized terms. Previous editions were prepared in different economic contexts. Revisions include discussion of current issues, including the breakdown of the system of pegged exchange rates and world monetary instability. Emphasizes role of high and variable inflation and the increasing influence of Japan and Germany. Notes the close links among national financial markets and the ease with which funds are moved internationally. Discusses problems associated with floating rates and why they have been less of a panacea than projected. Credits the decline in U.S. inflation rate with contributing to greater monetary stability. Concludes that national monetary policies result from political forces within individual countries. Statistical data and illustrations have also been updated. [For annotation of the third edition, see JEL no. 79-1028.] Aliber is Professor of International Finance and Economics at the University of Chicago. Index.

BUTTEN, WILLEM H. AND MARSTON, RICHARD C., eds. *International economic policy coordination.* Paperback reprint. Cambridge: New York and Sydney: Cambridge University Press, [1985] 1986. Pp. xvi,

386. \$18.95, paper. ISBN 0-521-33780-1.

JEL 87-0496

Paperback reprint. [See JEL no. 86-0176 for annotation.]

COHEN, BENJAMIN J. *In whose interest? International banking and American foreign policy.* Council on Foreign Relations Book series. New Haven and London: Yale University Press, 1986. Pp. xi, 347. \$19.95. ISBN 0-300-03614-0. JEL 87-0497

Analyzes the impact of international banking on the American government's foreign policy capabilities and the potential for conflict between private (banking) and public (national) interests, licenses on the constraints and opportunities created by international banking for policymakers and their policy preferences. Argues for the articulation of a coherent public policy on international banking for the contemporary era. Defines international banking, examines foreign policy's increasing interdependence with the private banking sector since the 1960s, and chronicles the lending to governments found in banking history. Discusses recent situations to illustrate the potential for conflict between private and public interests, situations when foreigners had net claims on American banks (influx of Arab deposits in the 1970s and the freezing of Iranian assets during the hostage crisis), and situations when foreigners had net debts to American banks (Latin American debt and the suppression of Solidarity in Poland). Offers suggestions for dealing with bank-related issues on the current foreign policy agenda, i.e., the global debt, prudential supervision of international banking, and the management of international liquidity. Cohen is William L. Clayton Professor of International Economic Affairs, Fletcher School of Law and Diplomacy, Tufts University. Index.

EDWARDS, SEBASTIAN AND AHAMED, LIAQUAT, eds. *Economic adjustment and exchange rates in developing countries.* Chicago and London: University of Chicago Press, 1986. Pp. xi, 443. \$48.00. ISBN 0-226-18469-2. JEL 87-0498

Eleven papers and comments from a joint National Bureau of Economic Research-World Bank conference in Washington in 1984. Essays, in four sections, cover: stabilization, adjustment, and exchange rate policy in developing countries, economic reform, foreign shocks, and exchange rates, case studies of coffee in Colombia, stabilization, stagflation, and investment incentives in Kenya, 1979-80, devaluation in Greece, and the West African Monetary Union; and economic adjustment and the real exchange rate. Contributors are mainly economists. Edwards is Associate Professor

of Economics at the University of California, Los Angeles. Ahamed is a Senior Investment Officer at the World Bank. Author and subject indexes.

FASANO-FILHO, UGO. *Currency substitution and liberalization. The case of Argentina.* Aldershot, England, and Brookfield, Vt.: Gower, 1986. Pp. xi, 194. \$42.50. ISBN 0-566-05234-2.

JEL 87-0499

Argues that much of the relevance of currency substitution theory and its policy implications are still not widely recognized because most of the empirical evidence comes from developed nations. Studies the case of Argentina, which has been encouraged to shift into foreign currency because of high domestic inflation rates and ceilings on nominal interest rates. Begins with a brief background of the economy, followed by a survey of the contributions to the theory of substitutable monies. Discusses the exchange- and interest-rate policies implemented in Argentina from 1959 to 1975, the demand for local and foreign currency, and the impact on the balance of payments. Describes the stabilization-liberalization program from 1976 to 1981 and suggests reasons for its failure. The last chapter compares macroeconomic events in the Southern Cone countries (Argentina, Chile, and Uruguay) during the period when these countries were embarked in similar economic policies. Based on the author's Ph.D. dissertation at the University of Illinois at Urbana-Champaign (1984). Fasano-Filho is an economist with the Kiel Institute of World Economics.

GOLD, JOSEPH. *The I.M.F. Volume 3: Further studies on the articles of agreement of the Monetary Fund. A Monetary Fund Publication.* Washington, D.C.: International Monetary Fund, 1986. Pp. 150. \$10.00. ISBN 0-939934-70-1.

Twenty-four studies (some jointly with other authors) that examine jurisprudence to which the provisions of the Articles of Agreement of the International Monetary Fund have affected the issues or been considered. Part 1 contains eight studies of new cases, the issues they raise, and their relationship to earlier cases. They concern the SDR in the courts, exchange controls, capital transfers, and par values, gold units of account and capital transfers, some American, Austrian, English, French, and Japanese cases, and the Iran-U.S. claims tribunal. Part 2 consists of thirteen studies of specific topics; they include legal concepts of public policy, capital transfers, continued effect of former par values of currencies, distinction between exchange restrictions and governmental fail-

ures to perform contractual obligations, and obligations to apply for exchange licenses. The three studies in Part 3 concentrate on the opinion of law commissions and writers concerning international monetary law and the draft Restatement of the Foreign Relations Law of the United States and Article VIII, Section 2(6) of the Fund Agreement. Gold is Senior Consultant of the IMF. Indexes to provisions of Articles of Agreement cited, resolution of Board of Governors and decisions of executive board cited, tables of authors, subjects, and summaries of principles or conclusions.

HELLEINER, GERALD K., ed. *Africa and the International Monetary Fund. Papers presented at a symposium held in Nairobi, Kenya, May 13-15, 1985*. Washington, D.C.: International Monetary Fund, 1986. Pp. xi, 277. \$10.00, paper. ISBN 0-939934-61-2. JEL 87-0501

Introductory overviews, seven papers (six commissioned) with comments and replies, and a panel discussion representing the proceedings of a symposium under the joint sponsorship for the Association of African Central Banks and the International Monetary Fund. Also contains an introduction by the editor. Part 1 consists of three overviews of Africa and the IMF. Of the seven papers, three are written from the perspective of international financial institutions and four from the perspective of African countries. They discuss: the economic crisis in Africa; the design, implementation, and adequacy of IMF programs; the performance of the international monetary system and the IMF; conditionality in the context of Africa's current social and economic conditions and disequilibria; alternative approaches to stabilization; an overview of the World Bank's evolving role in adjustment and growth; and the problems of external debt management. The topic of the panel discussion is what can be done regarding adjustment in Africa. Contributors are economists and government and agency officials. Helleiner is Professor of Economics at the University of Toronto. No index.

INTERNATIONAL MONETARY FUND. *Annual report of the executive board for the financial year ended April 30, 1986*. Washington, D.C.: Author, 1986. Pp. xi, 177. \$25.00, paper. ISSN 0250-7498

JEL 87-0502

The first section reviews developments in the world economy, discussing domestic activity and policies and international trade and payments of industrial and developing countries. The second section reports on the policies and activities of the Fund concerning the functioning of the international monetary system, surveillance, international liquidity and the SDR, the debt situation and strat-

egy, fund-supported adjustment programs, and financial policies and activities. Appendices (most of the report) consist of more detailed information about developments in international reserves and liquidity, Fund accounts in 1985/86, principal policy decisions, financial statements, and other Fund information. Index.

KOBOLD, KLAUS. *Interest rate futures markets and capital market theory: Theoretical concepts and empirical evidence*. European University Institute, Series D, Economics, no. 1. New York and Berlin: de Gruyter, 1986. Pp. xvi, 321. ISBN 0-89925-178-1. JEL 87-0503

Analysis of interest rate futures markets and of their impact on individual economic agents, capital markets, and the economy. Describes futures markets and futures trading in interest-earning assets. Investigates interest rate futures markets in the context of portfolio theory. Discusses classical portfolio theory, its application to analysis of futures trading, and the effects of hedging. Assesses the applicability of the capital asset pricing model to analysis of interest rate futures markets. Outlines effect of futures trading in interest-bearing securities on the functioning of capital markets and the level and variability of interest rates. Based on the author's doctoral dissertation (1985). Bibliography; no index.

STRANGE, SUSAN. *Casino capitalism*. Oxford and New York: Blackwell, 1986. Pp. vii, 207. \$24.95. ISBN 0-631-15026-9. JEL 87-0504

Argues that mismanagement of the international financial system is the source of the major problems affecting the international political economy, i.e., debt problems of developing countries, slow growth of the world economy in the 1970s and the recession of the 1980s, instability of the banking system, uncertainty over oil prices, and precariousness of the international political situation. Discusses the evolution of the world economic disorder since 1973, emphasizing the effects of floating exchange rates, and the volatility of interest rates, the oil price, and markets in general. Surveys various proposed remedies and reform plans to bring the system under control. Concludes that the problem is a global one and proposes that the United States put its own economic management in order, both domestically and regarding management of transactions conducted in U.S. dollars in the areas of banking, developing-country indebtedness, and Western alliance defense. Strange is Professor of International Relations, London School of Economics. Bibliography; index.

ZIJLSTRA, JELLE. *Jelle Zijlstra, a central banker's view: Selected speeches and articles*. Edited by C.

GOEDHART ET AL. *Financial and Monetary Policy Studies* series, vol. 10. Dordrecht, the Netherlands: Martinus Nijhoff; distributed in the U.S. and Canada by Kluwer Academic, Hingham, Mass., 1985. Pp. x, 237. \$32.90. ISBN 90-247-3184-4. JEL 87-0505

Collection of speeches and articles delivered and published by Jelle Zijlstra in his capacity as President of the Netherlands Central Bank from 1967-1980. Contains six speeches and statements for the International Monetary Fund, the World Bank, and Bank for International Settlements meetings, five articles on aspects of international monetary reform, the banking system and EEC, international economic and monetary problems, and the world economy and the monetary system, four articles on the economic situation in the Netherlands; and four articles on general monetary reflections: inflation and its impact, a view of monetary theory and policy, "Schumpeter's Vision," and central banking. Includes a summary of Dr. Zijlstra's fourteen annual President's reports and a list of major events in the international monetary system under his presidency. No index.

See also: Book Numbers JEL 87-0375, 87-0446, 87-0449, 87-0481, 87-0575

440 INTERNATIONAL INVESTMENT AND FOREIGN AID

CARVOUNIS, CHRIS C. *The foreign debt/adjustment development conflict: External adjustment and internal disorder in the developing nations*. New York and London: Greenwood Press, Quorum Books, 1986. Pp. xxiii, 243. ISBN 0-89930-155-X. JEL 87-0506

Examines the adjustment experience of indebted developing countries from August 1982 to the present. Focuses on the conflict between the payment of foreign loans and the pursuit of national development within IMF-monitored adjustment processes. Outlines the theoretical basis of the IMF's approach and overviews Fund programs and commercial debt restructurings for debt-problem economies from 1982 to 1985. Surveys factors that constrain debt-related adjustment such as general developed-country policies, demand for LDC exports, protectionism against LDC imports, developing country terms of trade, global oil demand and prices, international interest rates, and relative currency values. Investigates the recent external performance of indebted LDCs and examines present and prospective sources of external finance. Discusses principal aspects of domestic economic performance and the influence of debt-related adjustment on forms of government/electoral politics, popular reaction to adjustment, and fragmentation

within government over debt/adjustment issues. Proposes that interest capping and marginal loan guarantees represent the most direct and viable means for assisting heavily indebted developing nations. Carvounis is Associate Professor of Economics and Finance, St. John's University. Bibliography; index.

DANIEL, PHILIP AND SIMS, ROSE. *Foreign investment in Papua New Guinea: Policies and practices*. Pacific Research Monograph series, no. 12. Canberra: Australian National University, National Centre for Development Studies, 1986. Pp. x, 144. Paper ISBN 0-86784-761-1. JEL 87-0507

Examines the relationship between direct foreign investment and the development strategy of Papua New Guinea. Considers available statistical data on foreign investment, the general regulatory framework faced by foreign investors, the evolution of general fiscal incentives, and comparative expectations and experience in foreign investment flows. Discusses foreign investment policy and experience in the mining, petroleum, forestry, agriculture, fishing, and manufacturing sectors. Proposes that the success of policies in mining and petroleum illustrate the importance of linking sectoral strategies for foreign investment with a clearly articulated and realistic development strategy whereas the lack of clear government objectives and policies are reflected in the less favorable experience in the other sectors. The conclusion identifies factors for establishing and conducting foreign investment policy successfully. Philip Daniel is Director of the Institute of Development Studies, Australian National University. Rose Sims is First Assistant Secretary, Minerals and Resources Division, Minister and Cabinet.

DAS, DEEPA K. *Migration and development in the developing countries*. New York: Praeger, 1986. Pp. xiv, 263. ISBN 0-275-53217-2. JEL 87-0508

Analysis of trends in the flow of various kinds of financial resources to developing countries during the postwar period. Presents a historical perspective on transnational flows of financial resources and a review of the principal source countries in the postwar period. Examines the theoretical view of the relationship between resource inflow and economic growth. Outlines trends in the growth and interaction of developing countries with the international economy. Discusses the structure and volume of bilateral flows as well as concessional economic assistance to developing countries from OPEC countries and centrally planned economies. Considers the role of the international capital market and multilateral financial

institutions as sources of financial resources for developing countries. Das is Professor at Webster College, Geneva. Bibliography; index.

ECONOMIC COMMISSION FOR LATIN AMERICA AND THE CARIBBEAN (ECLAC). *Debt, adjustment, and renegotiation in Latin America: Orthodox and alternative approaches*. Boulder, Colo.: Rienner in cooperation with the United Nations, N.Y., 1986. Pp. x, 171. \$22.00. ISBN 0-931477-72-7.

JEL 87-0509

Four essays, three published previously, examine the adjustment and renegotiation process carried out in Latin America since 1982; they also propose alternate approaches. Topics of essays are: the bargaining relationship between borrower and creditor and how a misconception of this relationship could be the source of debt problems (Robert Devlin); existing mechanisms for solving the international financial crisis and various proposals for the conversion of the outstanding debt (Martine Guerguil); stabilization and adjustment policies in the Southern Cone, 1974-83 (Joseph Ramus), and sources of recessionary bias in IMF adjustment programs in Latin America and possible policy reforms (Richard Lynn Ground). The preparers are members of ECLAC's Economic Development Division. Bibliography; index.

GORDON, SARA L. AND LEES, FRANCIS A. *Foreign multinational investment in the United States: Struggle for industrial supremacy*. New York and London: Greenwood Press, Quorum Books, 1986. Pp. xviii, 289. \$37.95. ISBN 0-89930-071-5.

JEL 87-0510

Analyzes the recent growth of foreign direct investment in the United States, focusing on its motivation, its impact on the U.S. economy, and its effects on the balance of payments and international competitiveness of domestic manufacturing. Uses steel and motor vehicles as basic illustrations. Argues for a change in trade and investment policies, including an interim period of moderate protectionism (in steel, for example) to allow for restructuring, subsidized public-sector loans, loan guarantees, investment tax credits, and a modified domestic content requirement (in automobiles). Also recommends macroeconomic policy changes such as low interest rates, stabilization of the dollar, and expansion of incentives for savings and investment. Gordon is Associate Professor of Economics and Lees is Professor of Economics and Finance at St. John's University, Jamaica, New York. Bibliography; index.

HAFER, R. W., ed. *How open is the U.S. economy?* Lexington, Mass., and Toronto: Heath, Lexington,

1986. Pp. xviii, 248. \$27.00. ISBN 0-669-13086-9. JEL 87-0511

Six papers with comments presented at the Federal Reserve Bank of St. Louis's Tenth Annual Economic Conference in October 1985. Papers explore the macroeconomic effects of increased economic integration and policy reactions to increased openness. The paper by Richard N. Cooper examines the reasons for, and effects and implications of an increasingly open U.S. economy. Jeffrey A. Frankel looks at the possibility of attributing the existence of crowding out in an open economy to imperfect integration of goods markets rather than to imperfect integration of financial markets. John Kuszczak and John D. Murray use sector autoregressive procedures to investigate the relationship of the domestic economy in Canada and the United States to foreign influences. Benjamin M. Friedman examines the effects and implications of the U.S. net capital inflow. The remaining two papers examine policy responses to increased openness, i.e., international interdependence and constraints on macroeconomic policies (Jacob A. Frenkel), and the dollar exchange rate and international monetary cooperation (Ronald I. McKinnon). The editor is Research Officer, Federal Reserve Bank of St. Louis. Index.

ISTITUTO ITALO-LATINO AMERICANO. *Report on the medium term prospects for Latin American countries*. Rome: Author, 1986. Pp. 109. Paper.

JEL 87-0512

A survey of the antecedents of the debt crisis, attempts at adjustment, and the outlook at the present time. Provides a framework for analysis of Latin American debt problems. Reviews key external and internal causal factors with special attention to the impact of the first oil shock on Argentina, Brazil, Chile, Columbia, Mexico, Peru, and Venezuela. Analyzes the evolution of the productive structures and external trade of these countries. Outlines the main conclusions of this analysis and the projections by international organizations and research institutions. Reviews the prospects of the seven countries and presents certain policy initiatives to deal with the debt situation. No index.

KORPORAL, GLENDA. *Yankee Dollars: Australian investment in America*. Sydney; London and Boston: Allen and Unwin, 1986. Pp. viii, 299. \$29.95. ISBN 0-86861-841-1. JEL 87-0513

Relates the story of how some of Australia's best known companies have established themselves in the United States. The product of interviews with over fifty people, mainly in 1984 and 1985, both in Australia and America and four years of reporting from the United States for the *Financial Review*.

Describes how Australia's role as host to many multinationals has changed to include that of aggressively venturing offshore by some of its largest companies. Presents a snapshot of Australian investment in the U.S. in the mid-1980s, examining the company experiences and describing the lessons learned. Finds that each company has its own story as to why it ventured abroad. Presents case studies of particular companies and industries, emphasizing differences in strategies. Korporeal is Assistant Editor of the *Financial Review*, Sydney. Index.

LOXLEY, JOHN. *Debt and disorder: External financing for development*. Boulder, Colo., and London: Westview Press in cooperation with the North-South Institute, Ottawa, 1986. Pp. xv, 228. \$24.00, paper. ISBN 0-8133-7218-6. JEL 87-0514

Analysis of the external debt and associated structural adjustment problems of third world countries. Discusses the nature and origin of economic instability in the third world and the possible domestic policies for stabilization and adjustment. Analyzes the role of transnational bank finance for expediting structural adjustment, the approaches to crisis management employed by the International Monetary Fund, and the nature of World Bank lending for structural adjustment. Investigates the trends in volume, terms, and composition of aid for dealing with economic crisis and discusses the prospects for the future. Loxley is Head of the Department of Economics at the University of Manitoba, Canada. Selected bibliography, index.

MARTON, KATHERIN. *Multinationals, technology, and industrialization. Implications and impact in third world countries*. Lexington, Mass., and Toronto: Heath, Lexington Book, 1986. Pp. xiii, 304. \$32.00. ISBN 0-669-13209-8. JEL 87-0515

Analyzes the changing roles and relationships of multinationals in third world countries, particularly as they relate to industrial and technological development in these nations. Examines the nature and impact of technology transfer through multinational companies, focusing on the growth of technological capability and the absorption and adaptation of foreign technology and know-how in the various industrial sectors. Considers the role and effects of national policies in the host countries and their impact on investments and technology transfers. Discusses technology transfers in the petroleum, mineral, and food processing industries and in pharmaceuticals, capital goods manufacture, and microelectronics and computers. Includes case studies of Brazil, India, South Korea, and Mexico. Concludes that the "experience with technology

regulation over the last decade has led to increasing awareness that strict and rigid regulation of foreign technology could result in strong disincentives for the inflow of needed foreign technology." Marton is Associate Professor of International Business and Economics at Fordham University. Index.

PONIACHEK, HARVEY A. *Direct foreign investment in the United States*. Lexington, Mass., and Toronto: Heath, Lexington, 1986. Pp. x, 256. \$28.00. ISBN 0-669-11076-0. JEL 87-0516

Examines worldwide trends in direct foreign investment and discusses motivations for investing abroad. Specific attention is directed to foreign investment in the United States, discussing the U.S. market, costs and productivity, the dollar exchange rate, inflation, and protectionism. Describes the pattern, by investor country, industry, establishment, and location, of direct foreign investment in the United States. Examines in detail institutional factors about the U.S. economy, particularly its structure, labor and industrial relations, energy situation, and banking system. Reviews the pertinent regulatory and legal framework, especially specific federal laws, commercial law, and patent, trademark, and copyright law. Examines financing considerations, describes the relevant tax laws, and discusses investment incentives and how banks can be of assistance. Ponachek is an economist with the Bank of America and adjunct Associate Professor of Economics and Finance at New York University College of Business and Economics. Index.

UNITED NATIONS CONSULTANCY ASSISTANCE. *Analysis of consultancy assistance contracts*. Sales No. E.86.II.5. 1986. Pp. xviii, 51. 104177-5

Analyzes and compares individual provisions contained in consultancy contracts in economic development projects. Focuses on engineering consultancy contracts and technical assistance agreements. Examines key provisions in consultancy contracts, such as consultant's general and personnel duties, training, and responsibilities, consultant's foreign country personnel, owner's rights and objectives, fee structures and financial provisions, payment procedures and currency-related clauses, validity of contract, settlement of dispute, and suspension, termination, and force majeure. Also available in French, Russian, and Spanish. No index.

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT. *Financial solidarity for development. Development assistance from OPEC members and*

institutions to other developing countries, 1977-1983. Report by the Secretariat of UNCTAD. New York: United Nations, 1985. Pp. xii, 180. \$17.50, paper. ISBN 92-1-112213-9. JEL 87-0518

The fourth review of financial assistance from members of OPEC to other developing nations. Identifies trends in volume, composition, sectoral orientation, and terms of concessional flows from major aid donors, national aid agencies, and contributions to multilateral institutions. Reports on developments in nonconcessional flows, trust funds, and the Venezuelan Investment Fund and discusses the nature of aid coordination. Describes the role of institutions belonging to the coordination group of Arab national and regional development finance institutions and other multilateral institutions. No index.

WEEKLY, JAMES K. AND CARY, MARY K., compilers. *Information for international marketing: An annotated guide to sources.* Bibliographies and Indexes in Economics and Economic History series, no. 3. New York and London: Greenwood Press, 1986. Pp. xi, 170. \$29.95. ISBN 0-313-25440-0.

JEL 87-0519

A listing of sources of information regarding foreign markets, marketing regulations, rules, and procedures. Geared to assist companies, organizations, and managers involved in international marketing. Refers to government publications, databases, indexes to periodicals and newspapers, and other reference sources. Organized into sections dealing with demographic, economic, market, legal, company, and methodological data, promotional and financing facilities, and political data and political risk assessments. Includes references to bibliographies, directories, indexes, dictionaries, and databases for international marketers. Appendices list a directory of publishers, state trade contacts in the United States, U.S. foreign service offices, foreign embassies in the U.S., and international marketing journals. Weekly is Professor of International Business and Cary is Assistant Professor of Library Administration at the University of Toledo. Title index.

WORLD BANK. *Recovery in the developing world: The London symposium on the World Bank's role.* Washington, D.C.: Author, 1986. Pp. vi, 122. Paper. ISBN 0-8213-0776-2. JEL 87-0520

Nine papers and the text of opening and closing remarks presented at a symposium in London in February 1985. The papers analyze current challenges to the international donor community; the impact of the debt crisis on middle income and poor countries; the current role of the World Bank; the Bank's role in a maturing capital market; its

impact on economic policy in developing countries; its opportunities and limitations in promoting the private sector; the viability of "redistribution with growth"; the Bank's policies and operations in the future; and development priorities for sub-Saharan Africa. The contributors are: Mike Faber, Timothy Raison, Nicholas Hope, Stuart Holland, Michael Beenstock, S. Shahid Husain, John Teye, E. A. Brett, D. Joseph Wood, and Stanley Please and are mainly economists and World Bank officials. Bibliography; no index.

See also: Book Numbers JEL 87-0419, 87-0501, 87-0504, 87-0522, 87-0555, 87-0558

500 Administration; Business Finance; Marketing; Accounting

510 ADMINISTRATION

KAYNAK, ERDENER. *Marketing and economic development.* New York and London: Greenwood Press, Praeger, 1986. Pp. xxii, 200. \$37.95. ISBN 0-275-90003-7. JEL 87-0521

Explores the relationship between marketing and economic development, focusing on the development process and the general features of marketing activity in different economic settings. Examines the possibility of marketing technology transfer from the West to the LDCs; how marketing technology can help attain development goals, marketing strategy for development; and contributions of research at both the micro and macro levels. Cites examples from socialist countries, newly industrialized nations, Latin America, Europe, China, and Japan, among others. Kaynak is Professor of Marketing, Pennsylvania State University, Harrisburg. Selected bibliography; index.

520 BUSINESS FINANCE AND INVESTMENT

AMJAD, RASHID. *Private industrial investment in Pakistan, 1960-1970.* Cambridge South Asian Studies series. Cambridge; New York and Sydney: Cambridge University Press, 1982. Pp. xv, 257. £ 25.00. ISBN 0-521-23261-9. JEL 87-0522

Analyzes the factors that induced the growth and pattern of industrial investment in the 1960s in Pakistan with reference to the large-scale manufacturing sector, emphasizing the importance of institutional and supply factors, especially foreign aid, in explaining industrial investment. Develops a simple model of investment behavior to test the nature of the relationship between investment and institutional arrangements, level of profitability, expansion of the market, and foreign aid dispersed as loans. Examines: the corporate environment and its major actors (monopoly houses, the government, and financial institutions); the factors that

influenced profitability in this environment, i.e., government measures as well as market structure and links between industrial and trading interests; and the factors influencing investment behavior at the firm level, of monopoly houses, and at the industry level. Concludes that the success story of the early 1960s and subsequent slowing down and stagnation of the later 1960s can best be explained when the economic system is considered as a foreign-aid-dependent regime, when aid flows slowed down the earlier growth could not be sustained. Bibliography; index.

EDWARDS, JEREMY, ET AL., eds. *Recent developments in corporate finance*. Cambridge; New York and Melbourne: Cambridge University Press, 1986. Pp. xiv, 240. \$34.50. ISBN 0-521-32964-7.

JEL 87-0523

Contains eight papers from the proceedings of the Economic and Social Research Council/Centre for Economic Policy Research conference on "Recent Developments in Corporate Finance, Investment and Taxation" at Wadham College, Oxford, and the Institute of Economics and Statistics, Oxford, in 1985. Papers reflect a diverse range of developments in financial economics. Two themes recur—the imperfections in financial markets and the role of taxation in influencing the behavior of companies and investors. Essays are grouped under four headings—financial markets, issues in corporate finance, banking, and international finance. Specific papers deal with the efficiency of financial markets, precommitment to equity financing choices with asymmetric information, equity issues and offering dilution, effects of asymmetric taxation on corporate investment, credit rationing and collateral, competitive banking, taxation of foreign direct investment income, costs to crossborder investment and international equity market equilibrium. The contributors are mainly economists. Coeditors are Julian Franks, Colin Mayer, and Stephen Schaefer. Edwards is at St. John's College, Cambridge University. No index.

See also: Book Number JEL 87-0451

530 MARKETING

DICKINSON, JOHN R. *The bibliography of marketing research methods*. Lexington, Mass., and Toronto: Heath, Lexington Books, 1986. Pp. xxvi, 788. \$49.95. ISBN 0-669-12373-0.

JEL 87-0524

Bibliography of references to publications cited in marketing and marketing research periodicals, conference proceedings, textbooks, and handbooks. Contains over 9,200 entries organized under some 800 headings and subheadings in three parts: marketing research function, data collection

methods, and data analysis techniques. Within each heading or subheading, entries are listed alphabetically. Dickinson is at the University of Windsor. Author and subject indexes.

See also: Book Numbers JEL 87-0519, 87-0553

600 Industrial Organization; Technological Change; Industry Studies

610 INDUSTRIAL ORGANIZATION AND PUBLIC POLICY

ADAMS, WALTER AND BROCK, JAMES W. *The bigness complex: Industry, labor, and government in the American economy*. New York: Pantheon Books, 1986. Pp. xiii, 426. \$22.95. ISBN 0-394-54721-7.

JEL 87-0525

Analyzes the anatomy of the "bigness complex" in its diverse forms, examining the "quintessential myth of America's corporate culture that industrial giantism is the handmaiden of economic efficiency and consumer welfare." Begins with an examination of power and public policy, pointing to the numerous current economic problems. Examines the "popular mythology" about the benefits of corporate giantism, especially in connection with efficiencies of operation and innovation and social efficiency. Presents a historical perspective on the political economy of power, followed by an analysis of the market as a social control mechanism, with emphasis on antitrust legislation. Discusses the impact of decentralized management of power, military-industrial complex, and the policy alternatives. Adams is a University Professor at State University of New York at Stony Brook. Brock is an Associate Professor of Economics at Miami University of Ohio. Author and subject indexes.

AGAR, MICHAEL H. *Independents declared: The dilemmas of independent trucking*. Smithsonian Series in Ethnographic Inquiry, vol. 1. Washington, D.C. and London: Smithsonian Institution Press, 1986. Pp. 191. \$21.95, cloth. \$14.95, paper. ISBN 0-87474-250-1.

JEL 87-0526

Based on interviews, field observation, research into regulatory history of trucking, and analysis of the trucker's image in popular novels and films. Views trucking as a complicated field, emphasizing the dependence of the independent trucker on shippers, bankers, insurance companies, and regulators. Examines the truckers' actual working world from the point of view of those who work in it, focusing on the contradiction between in-

dependence and control. Topics include: road life, leasing, loads, rates, carrier operations and manipulations, state regulations, repairs, mechanical problems, breakdowns, and deregulation. Concludes that dependency is the most salient feature of the industry. Agar is a Professor of Anthropology at the University of Maryland. Index.

AHARONI, YAIR. *The evolution and management of state owned enterprises*. Ballinger Series in Business and Public Policy. Cambridge, Mass.: Harper and Row, Ballinger, 1986. Pp. xiv, 475. \$29.95. ISBN 0-88730-164-9. JEL 87-0527

Investigates the structure, operations, performance, conduct, goals, control issues, and management problems of state-owned enterprises. Reviews the origins of state-owned enterprises. Examines issues such as the role of management, the establishment of management standards, the determination of criteria of performance, the relationships with the private sector, their scope of operations, their control by the state, their pricing and profit policies, and their adaptation to institutional factors. Also describes the relationships of state-owned enterprises with private investors, comments on privatization as an alternative, and reviews the international implications of state-owned enterprises. Concludes with a contingency model of state-owned enterprise behavior. Aharoni is at Tel-Aviv University. Bibliography; author and subject indexes.

AYUB, MAHMOOD ALI AND HEGSTAD, SVEN OLAF. *Public industrial enterprises: Determinants of performance*. Industry and Finance Series, vol. 17. Washington, D.C.: World Bank, 1986. Pp. xi, 77. \$5.00, paper. ISBN 0-8213-0815-7. JEL 87-0528

Study identifying the factors influencing the performance of public industrial enterprises. Reviews data on public enterprises in thirteen countries and isolates three basic factors that distinguish public enterprises that perform successfully. Discusses the importance of a competitive environment as a determinant of performance. Reviews the impact of varying degrees of financial and managerial autonomy and accountability, managerial skills and morale, and coordination within the government. Annexes contain a review of origins of public industrial enterprises, their management and board of directors, and of the use of holding companies. Ayub is Senior Industry Economist and Hegstad is Senior Industry Specialist, both in the Industry Department of the World Bank. No index.

DiMAGGIO, PAUL J. *Nonprofit enterprise in the Arts: Studies in mission and constraint*. Yale Studies on Nonprofit Organizations series. New York and Ox-

ford: Oxford University Press, 1986. Pp. xv, 370. \$39.95. ISBN 0-19-504063-5. JEL 87-0529

Examines the production and distribution of art in the United States. Sixteen interdisciplinary essays, several published previously, provide perspectives on issues such as financing nonprofit art organizations, the relationship between industrial organization and social purposes in the arts, and constraints on funding activities. Papers in Part 1 explore the reasons why arts organizations are nonprofit. Those in part 2 discuss the sources of nonprofit cultural organizations revenues. The papers in part 3 examine factors influencing the mission of arts organizations. Part 4 deals with nonprofit enterprise in for-profit cultural industries such as television and publishing. European perspectives are also presented. DiMaggio is an Associate Professor of Sociology at Yale University. Index.

[DORSEY, JASPER N. AND WIGGINS, BEN T.] *Telecommunications in the post-divestiture era: Essays in honor of Jasper N. Dorsey and Ben T. Wiggins*. Edited by ALBERT L. DANIELSEN AND DAVID R. KAMERSCHEN. Lexington, Mass., and Toronto: Heath, Lexington Books, 1986. Pp. xiv, 252. \$25.00. ISBN 0-669-13445-7. JEL 87-0530

Twenty-one essays in honor of Jasper Dorsey, retired Vice-President and Chief Executive Officer of Georgia Operations (Southern Bell) and Ben T. Wiggins, an attorney and former public service commissioner in Georgia. Purpose is to promote an exchange of ideas among those involved in the telecommunications industry. The papers in Part 1 focus on state regulation and the decision making process at the level from the perspective of the regulator. The essays in Part 2 present telecommunications issues from the standpoint of the companies, who deal with them on a day-to-day basis. The theme of the papers in Part 3 is pricing in an asymmetrically regulated market. Those in part 4 deal with nontelecommunications issues such as market power, interchange, depreciation reserves, and modeling of economic impacts. The contributors are mainly industry executives and economists. Danielson is Professor of Economics and Kamerschen is Distinguished Professor and holder of the Chair of Public Utilities in the Department of Economics, both at the University of Georgia. Index.

EPSTEIN, EDWARD JAY. *Who owns the corporation? Management vs. shareholders*. Twentieth Century Fund Paper series. New York: Priority Press, 1986. Pp. vi, 69. \$8.00, paper. ISBN 0-87078-208-8. JEL 87-0531

Describes the current waves of corporate mergers and acquisitions by corporate "raiders." Ana-

lyzes the "myth of corporate democracy," reviewing how the earlier debate over participation by shareholders in corporate affairs has been rendered somewhat meaningless by the current no-holds-barred contests. Examines management defenses designed to thwart raiders. Expresses concern that continued dispersion of ownership will result in transfer of control from legal owners to management groups. Suggested remedies include: making tender offers equally available to all shareholders; ending two-tier tender offers; and forcing management to submit all bona fide tender offers to a shareholder vote before activating anti-takeover measures. Epstein is a free lance journalist. No index.

FINSINGER, JÖRG AND PAULY, MARK V., eds. *The economics of insurance regulation: A cross-national study*. New York: St. Martin's Press, 1986. Pp. xi, 300. \$35.00. ISBN 0-312-23445-7.

JEL 87-0532

Ten essays on the conduct and performance of insurance markets, especially automobile and life insurance, in seven countries. Studies begin with a description of market characteristics and regulatory institutions, followed by an in-depth analysis of regulatory instruments and their market impacts in Great Britain and the United States and the centrally controlled market in West Germany. Also examines regulation in Sweden, Switzerland, France, and Canada. Contributors are economists, and finance, insurance, and regulation specialists. Finsinger is Professor of Economics at the Hochschule Lüneburg and Wissenschaftszentrum, Berlin. Pauly is Robert D. Eilers Professor of Health Care Management and Economics at the Wharton School and Professor of Public Management and Economics at the University of Pennsylvania. Index.

GILLEN, DAVID W., OUM, TAE HOON AND TRETHEWAY, MICHAEL W. *Airline cost and performance: Implications for public and industry policies*. Vancouver: University of British Columbia, Centre for Transportation Studies, 1985. Pp. 170. ISBN 0-919904-39-X.

JEL 87-0533

Study of the Canadian airline industry and its regulatory environment. Provides a methodology for assessing the performance of the industry at a time of debate regarding the direction of air transport policy. Also contributes a method for examining multi-product firms and their cost structure. Describes the evolution of regulatory policy in Canada and the institutional setting of the industry and discusses previous theoretical and empirical studies. Examines outputs, inputs, and characteristics of class I and II air carriers for the period

1964-81. Analyzes productivity and assesses the productivity consequences of managerial decisions and regulatory constraints; includes discussion of the results and comparisons over time and across firms. Presents cost models, including measures of economies of scale and density. Concludes that performance comparisons based simply on total factor productivity and cost measures indicate that the trunk carriers have been more productive than the regional ones. However, after correcting these measures for scale and density economists and inter-carrier differences in the operating environment, the relationship changes so that there are no significant differences in carrier performance after controlling for differences in traffic density and available capital. Gillen is a faculty member in the School of Business and Economics at Wilfrid Laurier University. Oum and Tretheway both are on the Faculty of Commerce and Business Administration at the University of British Columbia. Bibliography, no index.

HALL, RICHARD H. *Organizations, Structures, processes, and outcomes*. Fourth edition. Englewood Cliffs, N.J.: Prentice-Hall, [1972 . . . 1982] 1987. Pp. x, 358. ISBN 0-13-642018-4.

JEL 57-0534

Fourth edition of a textbook on organizations now with the word "outcome" added to the title. Emphasizes the sociological roots of the book although references are to psychology, political and management organizations, development of organizations by individuals, communities, the nature and development of voluntary ones. Part 1: structure. Part 2: functional processes, for decision making. Part 3: organizational perception, particularly the perception of its impact on organizations and interorganizational relationships. The concluding part deals with organizational effectiveness and theory, presenting a variety of models such as population-ecology, resource dependence, rational choice, Marxist or class, and institutional. Hall is a faculty member in the Department of Sociology at the State University of New York at Albany. Name and subject indexes.

MAGAT, WESLEY A., KRUPNICK, ALAN J. AND HARRINGTON, WINSTON. *Rules in the making: A statistical analysis of regulatory agency behavior*. Washington, D.C.: Resources for the Future, 1986. Pp.

xiii, 182. \$22.50. ISBN 0-915707-24-1.

JEL 87-0535

Applies statistical techniques to explain how decisions are made by regulatory agencies, using as a representative example the industrial effluent standards set by the Environmental Protection Agency (EPA) pursuant to the Federal Water Pollution Control Amendments of 1972. Purpose is to develop an improved methodology for exploring how social regulatory agencies issue their rules and then to derive implicit decision rules from a large number of actual agency decisions. Describes how agencies make rules, focusing on their informal rulemaking processes to establish technical rules and comparing five examples of rulemaking. Reviews the literature relevant to understanding regulatory decision making and develops a formal model of the standard-setting process. Also discusses the methodological issues faced in developing suitable data. Uses regression analysis and other quantitative data to test hypotheses explaining how EPA sets its effluent guidelines. Concludes with an analysis of applying the revealed preference approach to understanding how agencies make rules. Magat is an Associate Professor with the Schools of Business and Public Policy at Duke University. Krupnick and Harrington are Fellows with Resources for the Future. Index.

MOORHOUSE, JOHN C., ed. *Electric power: Deregulation and the public interest*. Foreword by HAROLD DEMSETZ. Pacific Studies in Public Policy series. San Francisco: Pacific Research Institute for Public Policy, 1986. Pp. xviii, 516. \$34.95, cloth; \$14.95, paper. ISBN 0-936488-02-6, pbk. JEL 87-0536

Fifteen essays deal with the uncertain future of the electric power industry. Papers cover a wide range of topics such as electric utility regulation, competition in the production of electricity, tax policy and utility regulation, inflation and regulation, environmental regulation of electric utilities, electric utility regulation in an open economy, politicization of the electric utility industry, the demand for regulation, efficiency and cross subsidy in electric utility pricing, performance of utility commissions, information and incentives, property rights in utility franchises, and perspectives on reform in electric utility regulation. Major theme is that replacing market competition with government decrees "as the main institutional device for assuring good performance" has proved unwise. The contributors are mainly economists. Moorhouse is a Professor of Economics at Wake Forest University. Index.

SAGERS, MATTHEW J. AND GREEN, MILFORD B. *The transportation of Soviet energy resources*. Totowa,

N.J.: Littlefield, Adams; Rowman and Littlefield, 1986. Pp. xvi, 177. \$32.50. ISBN 0-8476-7504-1.

JEL 87-0537

Monograph analyzing the efficient transportation of energy in its major forms (oil, coal, natural gas, and electricity) from sites of production to those of consumption in the Soviet Union. Focuses on the general pattern of flow within each energy transportation system and upon identifying major impediments to efficient flows and other transport problems. Models each energy transportation system as it existed in 1980 as an abstract capacitated network; applies a network allocation model (the out-of-kilter algorithm) to each abstracted system to determine optimal flows and associated costs and compares the model's pattern of optimal flows with what is known of actual flows. Concludes that, in general, the models justify post-1980 developments in each energy transportation system. Also contains an epilogue on the impact of Chernobyl. Sagers is an economist for the Soviet Economics Studies Branch, Center for International Research, Bureau of the Census, Washington, D.C. Green is Associate Professor of Geography, University of Western Ontario. Terms, authors, and places indexes.

SINGLETON, ROSS C. *Industrial organization and antitrust: A survey of alternative perspectives*. Columbus, Ohio: Publishing Horizons, 1986. Pp. ix, 102. Paper. ISBN 0-842280-15-6. JEL 87-0538

Designed as a primary or supplementary introductory textbook to be used in industrial organization theory, antitrust law, and government and business courses. Presents fundamental theoretical and empirical differences of opinion within the field of industrial organization regarding the economic and political consequences of industrial concentration and the proper role of antitrust enforcement. Describes the traditional Mason-Bain-Scherer and recent developments within the tradition: the structuralist school; the Chicago school, the Austrian school; and perspectives of Joseph A. Schumpeter, John Kenneth Galbraith, Oliver E. Williamson, and Richard A. Posner. The concluding chapter summarizes the book, discusses the rebirth of the potential competition doctrine, and presents a view of the economic significance of collusion. Chapters contain review questions and listings of representative readings. Selected antitrust cases are developed only as they pertain to monopoly, merger, and restraint provisions of the law. Singleton is at the University of Puget Sound, Tacoma, Washington. Subject, case, and author indexes.

SNOW, MARCELLUS S. *Marketplace for telecommunications: Regulation and deregulation in industrial-*

ized democracies. University of Pennsylvania, Annenberg School of Communications series. New York and London: Longman, 1986. Pp. xvi, 304. \$34.95. ISBN 0-582-28600-X. JEL 87-0539

Twelve essays present a cross-country comparison of the economic and political facets of telecommunications regulations, describing their economic, political, legal, and institutional aspects. Case studies include Australia, Canada, France, West Germany, Japan, the United States, and the United Kingdom. Analyzes the historical forces responsible for regulation. Focuses on recent trends toward deregulation, privatization, and demopolization. The contributors are mainly economists. Snow is Associate Professor of Economics at the University of Hawaii at Manoa. Index.

UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE. *Recent trends in flexible manufacturing*. New York: United Nations, 1986. Pp. xv, 314. \$33.00, paper. ISBN 92-1-116347-1

JEL 87-0540

One of a series of studies dealing with industrial automation. Presents the background, emphasizing the distinction between mechanization and automation. Examines the state of the art of flexible manufacturing systems. Attributes a new phase or shift in manufacturing technology some thirty years ago to two innovations—the digital computer and the integrated circuit and microcomputer. Reviews the implications of computerized manufacturing technology. Describes the nature of a flexible manufacturing system; quantitative and qualitative aspects of flexible manufacturing, problems and prerequisites for the planning, implementation, and operation of a flexible manufacturing system, the role of governments in promoting such systems, and policy recommendations. No index.

See also: Book Numbers JEL 87-0373, 87-0392, 87-0457, 87-0470, 87-0472, 87-0490, 87-0543

620 ECONOMICS OF TECHNOLOGICAL CHANGE

BAARK, ERIK AND JAMISON, ANDREW, eds. *Technological development in China, India and Japan: Cross-cultural perspectives*. New York: St. Martin's Press, 1986. Pp. xii, 264. \$32.50. ISBN 0-312-78794-4. JEL 87-0541

Six papers present a comparative analysis of technological change in large Asian countries. Baark and Jamison review the nature of the relationship between technology and culture. Per Sörlin presents a historical review of the reception of Western technology in China and Japan. Jon Sigurdson studies the policy responses in Japan and Sweden to the challenge of the fast pace of change in high technology. Baark examines the nature of informa-

tion infrastructures in India and China. Ron Matthews discusses the case of machine-tool manufacture for a comparative analysis of technological dynamism in India and Japan. Aant Elzinga and Jamison present a cultural critique of technology in India and Japan. The contributors are mainly specialists in the history and theory of science and technology. The editors are Research Fellows at the Research Policy Institute, University of Lund, Sweden. Index.

DANZIGER, JAMES N. AND KRAEMER, KENNETH L. *People and computers: The impacts of computing on end users in organizations.* (CORPS (Computing, Organizations, Policy, and Society) Series. New York: Columbia University Press, 1986. Pp. xv, 268. \$32.50. ISBN 0-231-06178-1.

JEL 87-0542

An empirical assessment of the positive and negative impacts of computing on its end users. Examines the level and types of use of computing among managers, staff professionals, street-level bureaucrats, and desk-top bureaucrats. Analyzes the performance benefits from computing and certain problems associated with its use. Discusses the effect of computing on the work environment and on the extent of control exercised by workers and managers. Attempts to identify the sources of the differential impacts of computing and outlines the characteristics of successful end-user computing. Danziger is Research Scientist and Kraemer is Director in the Public Policy Unit, University of Calif.

KORML, VALENTINI. *Regulation rides regulation: Law Monoc.* ESC, 1986. Pp. xv, 0-906214-45-9

A commentary on the paragraph, dealing with the licenses. Begins by considering whether collaboration in R&D should be exempted or cleared. Reviews the views of the commission on granting exemptions, citing cases to present these views. Examines inherent anticompetitive effects and ancillary restrictions of joint ventures. Cites the Community courts' views and the Commission reactions. Presents details about group exemptions, the scope and conditions for application of the regulation, exemptions of restrictions of competition, obligations not infringing on the regulations, and opposition procedures. Concludes with a discussion of the kinds of agreements to which the exemption is or is not likely to apply, strategy to prevent commercial loss, and disadvantages of notification. Indicates that what is important is the growing

tendency for the Court and Commission to look more realistically at the market before finding that competition is restricted. Korah is Professor of Competition Law at University College, London. Includes lists of cases, secondary legislation, and principal banks and articles. No index.

WOODS, STANLEY. *Western Europe: Technology and the future*. Atlantic Paper series, no. 63. London, Sydney and Wolfeboro, N.H.: Croom Helm for the Atlantic Institute for International Affairs, 1987. Pp. viii, 106. Paper. ISBN 0-7099-5220-1.

JEL 87-0544

Explores the impact of technological development on the structure of industrial democracies and the problems for public policy. Contends that Western Europe has been less successful than the United States and Japan in the high technology industrial sector, resulting in a deterioration of its competitive position. Examines why the notion of a technology gap has developed in Europe, assesses the economic consequences of such a gap, evaluates statistical data dealing with conclusions about the gap, identifies factors affecting weak innovation performance in Western Europe, and examines policies designed to cope with the foregoing areas. Assesses comparative Western European, Japanese, and American performances, with microelectronics as a case study. Places part of the blame for the gap on limited relations between academe and industry, excessive reliance on a few large firms protected by government, and market rigidities. Woods is a Research Associate at the Atlantic Institute for International Affairs, Paris. No index.

See also: Book Numbers JEL 87-0357, 87-0466, 87-0515, 87-0540, 87-0546, 87-0548, 87-0551, 87-0590

630 INDUSTRY STUDIES

BARNETT, DONALD F. AND CRANDALL, ROBERT W. *Up from the ashes: The rise of the steel minimill in the United States*. Washington, D.C.: Brookings Institution, 1986. Pp. xii, 135. \$26.95, cloth; \$9.95, paper. ISBN 0-8157-0834-3. JEL 87-0545

Documents the growth of minimills, comparing their economic performance with that of the larger, fully integrated steel companies. Finds that the minimills increasingly are moving out more sophisticated product lines, taking markets away from both the bigger domestic firms and importers. Shows that some of the minimills have costs as low as producers anywhere else in the world and may arrest the rising trend of import penetration, though they are currently unable to produce all the higher grades of steel. Uses the experience of

approximately forty mills to demonstrate how entrepreneurial effort can succeed in developing profitable businesses. Attributes the success of minimills to factor prices, innovation, and product quality. Examines the lessons for national policy that can be learned from the steel experience. Suggests that policymakers should pay as much attention to the strategies of these newer companies as to the dilemmas of the older steel companies. Barnett is an associated staff member of the Economic Studies Program at the Brookings Institution and a consultant at the World Bank. Crandall is a Senior Fellow in the Economic Studies Program at the Brookings Institution. Index.

DEMAC, DONNA A., ed. *Tracing new orbits: Cooperation and competition in global satellite development*. Columbia Studies in Business, Government, and Society series. New York: Columbia University Press, 1986. Pp. xviii, 329. \$35.00. ISBN 0-231-06344-X. JEL 87-0546

Eighteen papers, many drawn from a conference on international satellite programs at Columbia University. Papers examine issues related to the achievement of stable, peaceful, and equitable satellite communications among developed and developing countries and public, private, national, and regional carriers in the context of international cooperation and competition. Two papers consider satellite activity challenges in the 1980s based on international space treaties and the common heritage principle and the competition between satellites and fiber optics. Four papers discuss the emergence of specialized and regional satellite systems and the present challenges to INTELSAT. Six papers overview satellite developments in Western Europe, Canada and the United States. Four papers examine the issue of equitable access with special reference to the regulatory activity of the International Telecommunication Union of the U.N. The last two papers look at Soviet satellite communications. The contributors are mainly economists, communications specialists, and legal and international affairs experts. The editor is an attorney, writer, and educator living in New York City. Selected bibliography; index.

EL MALLAKH, RAGAEI, ed. *The Middle East, Pacific Basin, and the United States: Refining and petrochemicals: Proceedings of the Sixth International Area Conference*. Boulder, Colo.: International Research Center for Energy and Economic Development, 1986. Pp. xii, 180. \$36.00, paper. ISBN 0-918714-10-9. JEL 87-0547

Eighteen papers presented at a conference in October 1985. Includes topics such as the changing petroleum products market; the world surplus of

refining capacity; Middle East economic cooperation; trade east of Suez; the international petrochemical trade; the Venezuelan petrochemical industry; restructuring in the industry; the Saudi Arabia case; the industry in the Arab countries, the industry in Egypt, China, and Japan; energy production and consumption in the Yemen; future energy trends; and the oil price future. The contributors are economists, government and industry representatives, and energy specialists. El Mallakh is Director of the International Research Center for Energy and Economic Development and Professor of Economics at the University of Colorado. No index.

FAULHABER, GERALD; NOAM, ELI AND TASLEY, ROBERTA, eds. *Services in transition: The impact of information technology on the service sector*. Cambridge, Mass.: Harper and Row, Ballinger, 1986. Pp. xix, 218. \$29.95 ISBN 0-88730-092-8.

JEL 87-0548

Eight essays, most with discussions, explore the role of information technology in improving service sector productivity. Papers represent the proceedings of a conference on the Impact of Information Technology on the Service Sector at the Wharton School, University of Pennsylvania, sponsored by the United States Census Bureau and the National Science Foundation. Topics include: trends in the service sector and information technology, information technology and the health care industry in the United States, impact on the insurance industry structure, technology and financial services, the impact of information technology on trade in services, the influence of information technology on the U.S. economy; demographics and the retail response, and the information feedback process. The contributors are mainly economists, public policy specialists, and management experts. Faulhaber is Associate Professor in the Department of Public Policy and Management, the Wharton School, University of Pennsylvania. Noam is Associate Professor at the Graduate School of Business, Columbia University. Tasley is Executive Director of the Center for Telecommunications and Information Studies at Columbia University. Author and subject indexes.

FRANSMAN, MARTIN, ed. *Machinery and economic development*. New York: St. Martin's Press, 1986. Pp. xvii, 274. \$35.00. ISBN 0-312-50222-2.

JEL 87-0549

Seven essays examine the role of the machinery sector in generating and diffusing technical change. Throws light on questions such as whether a nation must develop its own machinery sector or whether it can rely on imports and what are the problems

that newly industrialized nations have faced in promoting this sector. The first contribution discusses the role of machinery in economic development, analyzing how resources should be allocated among capital, consumption, and export goods. The second essay describes how well developing countries have fared in the attempt to spur indigenous capital goods sectors, using Brazil, India, and South Korea as case studies. The next paper discusses questions of design capabilities, with a detailed case study of firms in the general machinery industry in South Korea. Four case studies follow—a history of the machine tool industry (Japan), international competitiveness and diffusion and the role of the estate (Taiwan and Japan), the capital goods industry and the dynamics of development in LDCs (Brazil) and the role of the capital goods industry in crisis and recovery (Mexico). The contributors are: Fransman, Daniel Chudnovsky, Alice H. Amsden, Linsu Kim, Toshiaki Chokki, Fabio Stefano Erber, and Ajit Singh. Fransman is Lecturer in Economics at the University of Edinburgh. Index.

GEMMELL, NORMAN. *Structural change and economic development. The role of the service sector*. New York: St. Martin's Press, 1986. Pp. xii, 216. \$32.50. ISBN 0-312-76669-6.

JEL 87-0550

Examines aspects of the process of structural change during development and the role of service activities in that process. Examines patterns of structural change during development, market and nonmarket sectors, models of structural change, and an integrated insurance tax, a cash transfers to case study evidence developed countries to including a detailed structural changes, ment growth, and the Gemmell is a Lecturer in Faculty of Durham. Author and subject indexes

JOWETT, PAUL AND ROTHWELL, MARGARET. *The economics of information technology*. New York: St. Martin's Press, 1986. Pp. xiv, 108. \$29.95. ISBN 0-312-23434-1.

JEL 87-0551

Analyzes the development of information technology at both the micro- and macroeconomic levels. At the micro level, focuses attention on individual firms, universities, and research laboratories in the United States, Britain, Japan, and Europe. At the macro level, investigates and compares national efforts and the role of the respective governments in stimulating them. Objective is to identify the principal economic determinants of success for companies and countries in the field. After present-

ing a background briefly describing the development of the industry, separate chapters are devoted to the experiences of Japan, the United States, Europe, and Britain. Notes that the Japanese have relied mainly on government stimulus for information technology development, in contrast to greater reliance on the private sector in the other nations. Jowett is a Research Associate of Templeton College, Oxford University. Rothwell is a Lecturer in Economics at Oxford Polytechnic. Bibliography; index.

- MAHMOUDOV, ALEXEI. *The Soviet oil and natural gas industries (Problems of reserve estimation)*. Monograph Series on Soviet Union. Falls Church, Va.: Delphic Associates, 1986. Pp. vii, 95. Paper.

JEL 87-0552

Analysis of the Soviet oil and natural gas industries since World War II. Presents a historical background to the current energy problems. Reviews the geological nature of oil and gas deposits in West Siberia and the Caspian Sea region and certain problems in the oil and natural gas industries in these areas. Describes the organizational structure of Soviet geological and oil and gas extracting institutions and certain special features of Soviet oil and gas reserve estimation. No index.

- PELLEGRINI, LUCA AND REDDY, SRINIVAS K. *Marketing channels: Relationships and performance*. Advances in Retailing Series. Lexington, Mass., and Toronto: Heath, Lexington, 1986. Pp. xiii, 209. \$29.00. ISBN 0-660-13158-X. JEL 87-0553

Contains eleven of the papers presented at the Third International Conference on Distribution held at Angera, Italy, in April 1985, sponsored by the Centro di Studi Sul Commercio (CESCOM) of the University of Bocconi (Milan) and the Institute of Retail Management (IRM) of New York University. Essays address the issues involved in managing distribution relationships and marketing channels. Four papers deal with vertical agreements, comparing the efficiency of two-part tariff agreements, resale price maintenance and antitrust policy, economic effects of exclusive purchasing arrangements, and sale or return agreements versus outright sales. The second part, also four essays, deals with diverse aspects of the issues in coordinating marketing channels of distribution, such as the effects of interorganizational relationships, relationship management of distributors, the distribution choices made by the press industry and their competitive effects, and the problem of counterfeit products. The last section, of three essays, deals with location strategy and forecasting demand, discussing shopping behavior and optimal store locations, the impact of change on retail images, and

increasing the efficiency of forecasting seasonal demand for individual products. Pellegrini is the Deputy Director of the Centre for Retail Studies, Bocconi University, Milan. Reddy is an Assistant Professor of Marketing at New York University. Index.

- SALTZMAN, SIDNEY AND SCHULER, RICHARD E., eds. *The future of electrical energy: A regional perspective of an industry in transition*. New York and London: Greenwood Press, Praeger, 1986. Pp. xviii, 372. \$47.95. ISBN 0-275-92158-1.

JEL 87-0554

Twenty-seven papers presented at a conference entitled "New York's Electrical Future" held in November 1984 in New York City. Part 1 reviews the history of electricity in the city, the energy crisis, and the long-run security of the energy supply. Part 2 estimates regional economic activity, electricity demand, and prices in the future. Part 3 evaluates alternative electricity supply plans and the role of evolving technologies. Part 4 considers environmental and health effects of electric power generation and use. Part 5 discusses public perceptions of the electric utility industry. Part 6 deals with the financial environment surrounding electric utilities in New York State. Part 7 assesses the institutional and regulatory constraints facing the electrical industry and the prospects for reform. The contributors are energy specialists. Saltzman is Professor of City and Regional Planning and Schuler is Professor of Economics and of Civil and Environmental Engineering, both at Cornell University. Index.

- SAUVANT, KARL P. *International transactions in services: The politics of transborder data flows*. Atwater Series on the World Information Economy, no. 1. Boulder, Colo., and London: Westview Press, 1986. Pp. xxiii, 372. \$38.50, paper. ISBN 0-8133-0310-9. JEL 87-0555

Documents the emergence of the data industries and especially data-service industries; analyzes the economic impact of transborder data flows; reviews the politics of related issues and the debate regarding international transactions in services; and examines bilateral, regional, and international developments affecting the establishment of an international public policy framework for services. Examines trade and foreign direct investment in services; the impact of data services on existing industries, international economic transactions, international division of labor, and foreign direct investment; protection of privacy issues, U.S. policy, and competing values and approaches. Highlights aspects of the bilateral, regional, and international policy discussions, e.g., United States-Israel Free

Trade Agreement, U.S.-Canada negotiations, and the OECD declaration on transborder data flows, as well as work done by the Intergovernmental Bureau for Informatics and the Latin American Economic System. Concludes with a discussion of the national and international implications of an international regime for trade and foreign direct investment in data services. Sauvant is affiliated with the United Nations Centre on Transnational Corporations. No index.

SCHAUER, BRUCE P. *The economics of managing library service*. Drawings by NOLAN ANDERSON. Chicago and London: American Library Association, 1986. Pp. xii, 278. \$49.00. ISBN 0-8389-1453-X. JEL 87-0556

Uses tools of microeconomics to assist library administrators in resolving problems associated with resource allocation. Cites many examples of trade-off decisions where economic analysis is helpful, particularly in connection with theories of consumer behavior and production decisions. Extends microeconomic analysis by using tools of operations research, cost-benefit analysis, statistics, mathematics, and quantitative decision models. Places the library in the context of traditional demand and supply analysis, using information as the product. Also reviews the economic rationale for public funding of libraries as well as the use of fees to finance library services. Schauer is Head Librarian of the Fairwood Library in Renton, Washington. References at end of each unit. Index.

EVENS, PAUL, ed. *International gas: Prospects and trends*. New York: St. Martin's Press, 1986. Pp. 144. \$35.00. ISBN 0-312-42211-3. JEL 87-0557

Seven papers based on contributions to the third international economics conference held at the University of Surrey in April 1985. Theme of conference centered around two topics: the advisability and implications of the Sleipner decision (decision of the British government to block the British Gas Corporation's decision to buy Norwegian gas from the Sleipner field) and the future supply and demand balance in the European context. Focuses on problems relating to lack of flexibility in gas markets, the fixed contracts in gas transactions, the consequences of government intervention, and the uncertainty of forecasting demand and supply. Two papers present an overview of the international gas market, emphasizing those factors that interfere with market efficiency. Three contributions examine the gas situation in specific countries—Norway, the United Kingdom, and the U.S.S.R. One essay examines Western European gas markets, supporting deregulation as a policy

leading to lower prices and an expansion in demand. The final paper describes the potential of the Arab world as a source of gas exports. The contributors are economists, energy industry executives, and energy specialists. Stevens is Lecturer in Economics at the University of Surrey. No index.

UNITED NATIONS CENTRE ON TRANSNATIONAL CORPORATIONS. *Transnational corporations in the international semiconductor industry*. U.N. Publications sales no. E.86.II.A.1. New York: United Nations, 1986. Pp. xxvii, 471. \$41.00, paper. ISBN 92-1-104174-0. JEL 87-0558

Analyzes transnational corporations (TNCs) in the context of the structure, production, and market characteristics of the international semiconductor industry. Purpose is to increase understanding of the participation and strategies of TNCs in the industry and enhance the ability of host countries to establish appropriate policies and improve their negotiating capability. Presents information about definitions and applications of the industry, its products, and technology, world market and production, international trade in semiconductors, production characteristics, role of U.S., Japanese, and Western European TNCs in world production, industry restructuring and evolving TNC strategies, TNC participation in developing countries or areas, selected developing countries' contribution in the international semiconductor industry, and prospects for TNCs in developing countries. Conclusion is that international strategies of development of semiconductor industry will be a high priority on economic, political, and security grounds. French, Russian, and Spanish.

UNITED NATIONS STATISTICAL COMMISSION AND ECONOMIC COMMISSION FOR EUROPE. *Correspondence table between the international standard industrial classification of all economic activities of the United Nations (ISIC) and the classification of branches of the national economy of the Council for Mutual Economic Assistance (CBNE)*. Conference of European Statisticians, Statistical Standards and Studies series, no. 38. New York: United Nations, 1986. Pp. vi, 73. \$9.50, paper. ISBN 92-1-016162-3. JEL 87-0559

A correspondence table between the International Standard Industrial Classification (ISIC) of the UN and the classification of branches of the national economy (CBNE) employed by CMEA countries. Part I details the key for conversion of data classified according to ISIC into CBNE group-

ings. Part 2 presents a key for the conversion of data classified according to CBNE into ISIC categories. In English and Russian. No index.

U.S. DEPARTMENT OF COMMERCE. *A competitive assessment of the U.S. civil aircraft industry*. International Competitive Assessment Series. Boulder and London: Westview Press, 1986. Pp. 172. \$25.00, paper. ISBN 0-8133-7254-2.

JEL 87-0560

Examines the prospects for continued international competitiveness of the U.S. civil aircraft industry. Identifies key factors that will determine the shape of future competition. Develops alternative scenarios for the future, as well as a framework for monitoring and measuring these developments. Points out that the industry no longer enjoys a large domestic market, but must compete in both domestic and international arenas. Describes the industry, noting key features such as a high degree of concentration, close linkages between supplier and customer, a low volume/high value project line, and reliance on military as well as civilian markets, and a significant reliance on export markets. Discusses the evolution of the civil aviation industry and its relationships with the federal government; technological evolution and performance beginning with World War I; recent industry performance; past and current competitiveness, emphasizing large transports; trends and factors influencing the future; future international competitiveness; and the future of general aviation aircraft and helicopters. Bibliography; no index.

WASOW, BERNARD AND HILL, RAYMOND D., eds. *The insurance industry in economic development*. New York and London: New York University Press, 1986. Pp. xvi, 268. \$45.00. ISBN 0-8147-9211-1.

JEL 87-0561

Fourteen essays representing results of a series of conferences on the insurance industry held by the Gallatin Division of New York University. Three essays place the study of insurance in the perspective of recent international developments, examining the service sector in developing countries, the role of reinsurers in developing countries, and insurance industry technology and its transfer. Two essays in Part 2 examine the influence of insurance and reinsurance on the balance of payments. The impact of insurance on investment is treated in two essays in Part 3, emphasizing the role of financial institutions and markets on capital formation and development and insurance and intermediation. Part 4 reviews the impact of regulation on insurance growth. The papers in Part 5 present the results of case studies: French insur-

ance nationalization, Brazilian market consolidation in the 1970s, Indian nationalization, the Korean experience, and postwar development in Japan. The contributors are economists, financial and insurance specialists, business executives, and government agency officials. Wasow is an Associate Professor of Economics at New York University. Hill is Senior Vice President at Shearson Lehman American Express Corporation. Index.

See also: Book Numbers JEL 87-0384, 87-0461, 87-0529, 87-0530, 87-0532, 87-0536, 87-0539, 87-0544, 87-0556, 87-0579, 87-0596, 87-0603, 87-0610

700 Agriculture; Natural Resources

710 AGRICULTURE

BELDEN, JOSEPH N., ET AL. *Dirt rich, dirt poor: America's food and farm crisis*. Alternative Policies for America series. New York and London: Routledge and Kegan Paul in association with Methuen for the Institute for Policy Studies/World Hunger Year, 1986. Pp. xii, 188. \$27.50, cloth; \$12.95, paper. ISBN 0-7102-0666-6, pbk.

JEL 87-0562

Covers production, distribution, and consumption of food, analyzing both international and domestic problems. Addresses key questions such as: why are there hunger and disease in the midst of plenty and affluence and why does the American food system not benefit producers, food industry workers, and consumers? Finds that most of the important problems are related to the control of agricultural production; the control of food marketing; natural resources and the environment, notably reliance on fossil fuel based energy; issues related to food consumption; and factors related to international trade and development assistance. Presents an array of goals for the U.S. food system, including: an abundant supply at reasonable prices; the production of healthy and nutritious foods, adequate food assistance for those in need; economic and social equity for the producers; income stability and profit for the farmers; encouragement of the family farm; minimal damage to the environment; and a contribution to the elimination of world hunger. Coauthors are: Vincent P. Wilber, Enid Kassner, Rus Sykes, Ed Cooney, Lynn Parker, Alan Sanders, Cynthia Schneider, and Marsha Simon. Belden is a research specialist for the Housing Assistance Council, Washington, D.C. Bibliography; index.

BROWNE, WILLIAM P. AND HADWIGER, DON F., eds. *World food policies toward agricultural interde-*

pendence. Boulder, Colo.: Rienner, 1986. Pp. x, 220. \$26.50. ISBN 0-831477-79-4.

JEL 87-0563

Fourteen papers examine the challenges of food policy decision making in developed and developing agricultural nations, as well as relationships of public policy and global interdependency. Following an overview on the issues of world food and trade, papers deal with: U.S. agriculture in a global food system; public policies in developed and developing agricultural nations; and issues related to dependence, development, and interdependence (role of world food organizations, the social, developmental, and political impacts of food aid, and world food linkages and U.S. leadership). Contributors are mainly political scientists and agriculture and trade specialists. Browne is Professor of Political Science, Central Michigan University. Hadwiger is Professor of Political Science, Iowa State University. Index.

EASTER, WILLIAM K., ed. *Irrigation investment, technology, and management strategies for development*. Studies in Water Policy and Management, no. 9. Boulder, Colo., and London: Westview Press, 1986. Pp. xxvii, 270. \$27.50. ISBN 0-8133-7177-5.

JEL 87-0564

Fourteen papers discuss key issues relevant to strategies for irrigation investment and management. Three papers outline a conceptual model of irrigation management and review problems and priorities for irrigation planning, investment, and implementation. Three papers deal with India, covering problems of Indian irrigation and strategies and choice criteria for tank irrigation to improve agricultural productivity. Four papers are devoted to irrigation development in Thailand and discuss the role of irrigation for improvement in rice production, the economic river pump and small tank irrigation systems, and the impact of a pilot irrigation project funded by the Asian Development Bank. Two papers deal with the irrigation projects in Pakistan and Egypt. Two papers argue for a reorientation of irrigation investment policies and present policy and research recommendations. The contributors are mainly agricultural economists. Easter is a Professor of Agricultural and Applied Economics, University of Minnesota, St. Paul. Author and subject indexes.

GOMEZ, ARTURO A. *Philippines and the CGIAR Centers: A study of their collaboration in agricultural research*. Consultative Group on International Agricultural Research (CGIAR) Study Paper, no. 15. Washington, D.C.: World Bank, 1986. Pp. vii, 70. \$5.00, paper. ISBN 0-8213-0824-6.

JEL 87-0565

Analysis of the effectiveness of collaboration between the International Agricultural Research Centers (IARCs) and the Philippine National Agricultural Research System (NARS). Provides background material on the Philippines and its agricultural sector and outlines the structure of NARS. Evaluates the impact of IARCs on the NARS with respect to improvements in the research capacity of the latter. Assesses the research impact on agricultural production and the effectiveness of the IARCs model. Gomez is Professor of agronomy at the University of the Philippines, Los Baños. No index.

ISARANGKHA, RUNGKUN. *Thailand and the CGIAR centers: A study of their collaboration in agricultural research*. Consultative Group on International Agricultural Research (CGIAR) Study Paper, no. 16. Washington, D.C.: World Bank, 1986. Pp. x, 94. \$5.00, paper. ISBN 0-8213-0825-4.

JEL 87-0566

Analysis of the effectiveness of collaboration between the International Agricultural Research Centers (IARCs) and the national agricultural research system of Thailand. Describes the agricultural sector of Thailand and the evolution of the national agricultural research system. Presents the perceptions in the national research system of the IARCs and the views of professionals in the commodity programs regarding collaboration with the IARCs. The author is Director of the Agricultural Planning Section of the Ministry of Agriculture and Social Development. Index.

LOWENBERG, DEBOY. *Roots of the farm*. Greenwood Press, 1986. \$42.95. ISBN 0-275-21270-0.

Analyzes capital gain and loss in farm management in the United States during the post-World War II period. Provides a series of approximations to the farm firm decision environment. Develops a static model that assumes constant input levels, extends the model to allow for changing input levels and financial restructuring during the planning period and for limited availability of land, adjustment costs, and equity investment limits, and incorporates the impact of land price risk. Tests the model using data from an illustrative Iowa farm firm for the period 1970-84. Some general conclusions are that farm bankruptcies and other financial problems of the 1980s are signs of the inadequacy of past lender policy, poor farm-level decisions, and counterproductive government price support and credit programs. Lowenberg-DeBoer is Assis-

tant Professor of Agricultural Economics, Purdue University. Index.

PAZ SILVA, LUIS J. *Peru and the CGIAR centers: A study of their collaboration in agricultural research*. Consultative Group on International Agricultural Research (CGIAR) Study Paper, no. 12. Washington, D.C.: World Bank, 1986. Pp. xii, 136. \$8.00, paper. ISBN 0-8213-0768-6.

JEL 87-0568

Analysis of the effectiveness of collaboration between the International Agricultural Research Centers (IARCs) and the national agricultural research system in Peru. Provides highlights of the Peruvian farm sector and of the national agricultural research system. Assesses the impact of IARCs on the agricultural research system. Evaluates the impact of research on production of rice, maize, potatoes, beans, and wheat. The author is President of the National Development Foundation of Peru and Head of the Department of Economics of the National Agrarian University, La Molina. No index.

POSADA TORRES, RAFAEL. *Ecuador and the CGIAR Centers: A study of their collaboration in agricultural research*. Consultative Group on International Agricultural Research (CGIAR) Study Paper, no. 11. Washington, D.C.: World Bank, 1986. Pp. x, 75. \$5.00, paper. ISBN 0-8213-0787-8.

JEL 87-0569

Analysis of the effectiveness of collaboration between the International Agricultural Research Centers (IARCs) and the national agricultural research system in Ecuador. Provides information regarding the macroeconomic aspects of Ecuador's agricultural sector and the supply and demand for IARC products. Describes the historical development, structure, and achievements of the national research system of Ecuador. Discusses the interaction between the IARCs and the national research system as well as the contribution of other bilateral and multilateral agencies. Outlines the impact of research on production. Torres is Head of the Economic Division of FEDERROZ, a national organization of rice producers in Ecuador. No index.

REVEL, ALAIN AND RIBOUD, CHRISTOPHE. *American green power*. Translated by EDWARD W. TANNER. Baltimore and London: Johns Hopkins University Press, [1981] 1986. Pp. xiii, 225. \$30.00, cloth; \$12.95, paper. ISBN 0-8018-2434-6.

JEL 87-0570

Translation of a book originally published in French as *Les États-Unis et la stratégie alimentaire mondiale* (1981). Analyzes the performance and

techniques of American agriculture to highlight the dominant role of U.S. agricultural policy and strategy for the world economy. Part 1 covers the state of the world food and agricultural balance. Part 2 analyzes the objectives, content, and instruments of American agricultural policy and strategy. The authors argue that there are distinct similarities between the power of the United States over the world food supply and that of OPEC over energy. Revel is Executive Vice-President of GERSAR, Inc., Paris. Riboud is a Professor at the Agro-Food Institute, Paris. Index.

RICHARDS, ALAN, ed. *Food, states, and peasants: Analyses of the agrarian question in the Middle East*. Boulder, Colo., and London: Westview Press, 1986. Pp. xvii, 282. \$27.00, paper. ISBN 0-8133-7117-1.

JEL 87-0571

Ten papers presented at an international workshop in Rome in September 1984. Papers discuss agricultural development, its social and distributional effects, and the impact of economic policies. Part 1 is an historical review of the role of states, landlords, and peasants in Turkey and Egypt. Part 2 deals with the political economy of supply and investigates the effects of taxes and subsidies. Part 3 discusses the political conflict associated with food subsidies. Part 4 covers the transformation of the rural agricultural labor force. The contributors are A. Tosun Aricanli, Richard H. Adams Jr., Harold Alderman, Hahk Kasnakoglu, Roger Owen, Samir Radwan, David Seddon, Kutlu Somel, Suday Uner, and the editor. Richards is Associate Professor of Economics at the University of California, Santa Cruz. No index.

SANCHEZ, PEDRO A. AND SCOBIE, GRANT M. *Cuba and the CGIAR Centers: A study of their collaboration in agricultural research*. Consultative Group on International Agricultural Research (CGIAR) Study Paper, no. 14. Washington, D.C.: World Bank, 1986. Pp. xiv, 120. \$8.00, paper. ISBN 0-8213-0823-8.

JEL 87-0572

Analysis of the effectiveness of collaboration between the International Agricultural Research Centers (IARCs) and the national agricultural research system of Cuba. Provides information regarding the structure of the Cuban economy and agricultural sector, and the nature of food production, consumption, and distribution. Describes the framework of the national agricultural research system and the nature of collaboration in research on rice, beans, cassava and tropical starchy crops, tropical pastures, potatoes, maize, and sorghum. Assesses research impact on agricultural production. Sanchez is Professor of Soil Science at North

Carolina State University. Scoble is Senior Agricultural Economist at Ruakura Agricultural Research Center in Hamilton, New Zealand. No index.

SCOTT, GREGORY J. *Markets, myths, and middlemen: A study of potato marketing in central Peru*. Lima: International Potato Center (CIP), 1985. Pp. xii, 184. \$9.00. JEL 87-0573

Argues that popular ideas about potato marketing in Peru are erroneous, for example, disorganized rural assembling, high freight rates and high marketing costs, exorbitant wholesaler margins, too many middlemen, and the replacement of potatoes with rice. Begins with a review of approaches to food marketing and a historical examination of potato production, distribution, and consumption, with special attention to costs, prices, and margins. Presents a historical review of potato production, consumption, and marketing, indicating how marketing patterns generate structural changes in the potato sector. Also presents further details about assembling and transportation, integrating the discussion with analyses of costs, margins, and profits. Data are from particular regions, such as the Manjaro Valley, Canete, and Lima. Scott is in the Social Science Department of the International Potato Center, Lima, Peru. Bibliography; no index.

TIMMER, C. PETER. *Getting prices right: The scope and limits of agricultural price policy*. Ithaca and London: Cornell University Press, 1986. Pp. 160. \$25.00, cloth, \$7.95, paper. ISBN 0-8014-9441-9, pbk. JEL 87-0574

Essay/primer for analysts and practitioners on how to think systematically about the impact and desirability of a change in agricultural price policy and what the scope and limits of agricultural price policy are. Uses a static and partial-equilibrium framework with a border price paradigm as the starting point for a welfare analysis of price policy interventions. Considers: implementation issues and impact on the domestic marketing sector and relative roles of public and private marketing agencies as a function of price policy; nature of the world market price, disaggregated effects of price policy on producers and consumers; short-run macro effects on budgetary, fiscal, and monetary policy; impact of macro prices, especially the foreign-exchange rate; spillover effects of price policy for one commodity market on other commodity and factor markets, on the agricultural sector, and on the entire economy; and dynamic effects through micro decision making and the macroeconomy on employment, the composition and size of investment, and structure and rate of economic growth. The concluding chapter discusses markets,

politics, and the dynamics of price changes. Timmer is John D. Black Professor of Agriculture and Business, Graduate School of Business Administration, Harvard University. Index.

TSHIBAKA, TSHIKALA B. *The effects of trade and exchange rate policies on agriculture in Zaïre*. Research Report series, no. 56. Washington, D.C.: International Food Policy Research Institute, 1986. Pp. 65. Paper. ISBN 0-89629-057-3.

JEL 87-0575

One of a series of studies undertaken by the International Food Policy Research Institute (IFPRI) on trade and exchange rate regimes and how they affect agricultural incentives in developing countries. Examines the extent to which overvalued exchange rates have discriminated against agricultural exports and agriculture in general. Argues that because the mineral sector is regarded as the engine of the Zairian economy, other sectors, particularly agriculture, have suffered discrimination. Covers policies directed specifically toward agriculture and also those aimed at other sectors. Notes that Zaïre has undergone three phases since 1960: 1960-65 with political crisis and economic disorder, 1966-70 marked by international aid and less restrictive exchange-rate policies, and 1971-82 characterized by restrictive trade and exchange-rate policies and the trade-off between food and export crops. Concludes that the domestic prices of food commodities were kept well below the world price as an incentive for economic stabilization, industrialization, and agricultural and nonagricultural development. Examines the problems through government intervention in the agricultural industry with charts and tables. Includes a research bibliography.

See also: Book Numbers J11.

87-0443, 87-0452, 87-0456, 87-0593,
87-0617, 87-0623

720 NATURAL RESOURCES

CORLEFF, T. RANDALL. *The economic feasibility of recycling: A case study of plastic wastes*. New York and London: Greenwood Press, Praeger, 1986. Pp. xiv, 203. \$39.95. ISBN 0-275-92376-2.

JEL 87-0576

Addresses the problems associated with plastics recycling from an economic perspective and reviews numerous economic and institutional factors that may determine whether future plastic wastes will be disposed of or recycled. Indicates that while

there is disagreement about the extent to which plastics cause waste disposal environmental problems, there is agreement that disposal is becoming increasingly expensive and a public policy concern. Examines both the incentives and barriers to recycling. Discusses recycling processes, various disposal methods and how they affect the environment, the role of the private and public sectors in making disposal decisions, international comparisons, historical and projected U.S. resin production, the cost of recycling versus disposal and different recycling approaches, and incentives and barriers to recycling in selected market sectors—electrical and electronics, beverage bottles, and automobile shredding. Concludes with a series of questions and recommendations dealing with environmental implications, what the private sector can be expected to do, whether there is a need for public sector planning, and whether recycling is a feasible alternative to disposal. Curlee is with the Oak Ridge National Laboratory. Bibliography; index.

- DIXON, JOHN A. AND HUESCHMIDT, MAYNARD M., eds. *Economic valuation techniques for the environment: A case study workbook*. Baltimore and London: Johns Hopkins University Press, 1986. Pp. xx, 203. ISBN 0-8018-3352-3.

JEL 87-0577

Ten papers outline a broad approach to the valuation of the environmental and natural systems effects of development projects. Three papers discuss the real-world role of economic analysis for project evaluation, present a hypothetical case study of the financial and economic analyses of a project, and outlines the principles of cost-benefit analysis and of its extension to valuation of environmental quality. Seven papers illustrate the organization and use of these techniques in case studies of upland agricultural projects in South Korea; a geothermal power plant project in the Philippines; the coastal development of Tokyo Bay; a public park in Bangkok, Thailand; a water resources project in Thailand; fuelwood production and use in the Philippines; and water pollution control options in China. The contributors are mainly environmental specialists. Index.

- HAMPSON, FEN OSLER. *Forming economic policy: The case of energy in Canada and Mexico*. Studies in International Political Economy series. New York: St. Martin's Press, 1986. Pp. x, 161. \$27.50. ISBN 0-312-29944-3.

JEL 87-0578

Examines how governments achieve reform; in particular, how national crises change political values and behavior. Argues that in times of national crises government strategies, policies, decisions,

and actions are motivated by macropolitical considerations as opposed to micropolitical considerations in the absence of a crisis. Illustrates the argument with reference to the pattern of Canadian and Mexican energy policies during the 1970s and early 1980s. Discusses the theoretical framework in the context of the Canadian and Mexican political systems. Examines the energy policies of the two countries prior, during, and after their domestic energy crises. Concludes that possibilities for reform depend on a shared sense of crisis among political elites. Hampson is a Research Fellow, Center for Science and International Affairs, John F. Kennedy School of Government, Harvard University. Bibliography; index.

- MABRO, ROBERT, ET AL. *The market for North Sea crude oil*. Oxford; New York; Toronto and Melbourne: Oxford University Press for the Oxford Institute for Energy Studies, 1986. Pp. xxxii, 341. \$54.00. ISBN 0-19-730001-4.

JEL 87-0579

Investigates the significance of the North Sea and the market for North Sea crudes in the world petroleum market. Examines the physical characteristics of North Sea crudes and blends and relevant statistical features of the fields that produce them. Describes the pattern of international trade in North Sea crude oil, the structure of the market, and costs and time patterns of production. Discusses the licensing and production policies of the United Kingdom and Norway; the place and role of their major oil corporations, and the fiscal regime applied to oil in the two countries. Analyzes the behavior of spot prices, their trends and variability, the behavior of price differentials, and the relationships between North Sea crude prices and those of other world crudes. Concludes that growth of North Sea oil production will not continue at its recent rate and an increase in the volume of forward trading can only take place by diversification into crudes other than Brent. Coauthors are Robert Bacon, Margaret Chadwick, Mark Halliwell, and David Long. Mabro is Director, Oxford Institute for Energy Studies. Glossary, no index.

- PONTECORVO, GIULIO, ed. *The new order of the oceans: The advent of a managed environment*. New York and Gildford, Surrey: Columbia University Press, 1986. Pp. xv, 277. \$30.00. ISBN 0-231-05870-5.

JEL 87-0580

Ten contributors discuss the new order or system for governing the oceans, addressing questions such as how and why the new order has evolved from the concept of freedom of the seas, which has existed for four centuries. Volume was developed from a Columbia University seminar, "On the Uses of the Oceans." Papers in Part I discuss

the new regime of the oceans, overviews the role of oceans in historical economic development, tracing the transition from the open ocean system to today's struggle to increasing relative scarcity, which requires management at both the national and international levels, and discussing problems imbedded in the 1982 United Nations negotiations over the Law of the Sea Treaty. Part 2 examines ocean resources and the impact of new technology in recovering them. The third part presents voices of the "new regime"—Africa, Latin America, and Southeast Asia. The last part discusses the role of the United States in the Law of the Sea Negotiations and examines issues unresolved or omitted from the Law of the Sea Convention agenda. Contributors are mainly lawyers, economists, national representatives, and specialists in marine science and technology management. Pontecorvo is Professor of Economics at the Graduate School of Business, Columbia University. Index.

UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE AND FOOD AND AGRICULTURE ORGANIZATION. *The forest resources of the ECE region (Europe, the USSR, North America)*. Geneva. Author, 1985. Pp. v, 223. \$21.00, paper. ISBN 92-1-116344-7.

JEL 87-0581

An assessment of the forest resources of the ECE region. Part 1 presents general forest resource inventory data. Part 2 deals with the volume and mass of tree and other woody biomass. Part 3 outlines the role of the forest in supplying environmental and other nonwood goods and services. Appendices present details of the study and statistical data. No index.

VENN, FIONA. *Oil diplomacy in the twentieth century*. Making of the 20th Century series. New York: St. Martin's Press, 1986. Pp. xii, 228. \$29.95. ISBN 0-312-58307-9.

JEL 87-0582

Analysis of the historical role of oil in international relations. Examines the impact of oil on intergovernmental relations as well as its role as a multinational enterprise affected by the policies of countries in which it operates. Discusses the nature of oil diplomacy during the period 1900-1914, the impact of First World War on the political context of petroleum ownership and trade, and the Anglo-American oil war and the growth of oil nationalism in the interwar years. Outlines the role of petroleum during World War II and oil diplomacy and national security between 1945 and 1960. Reviews the reorientation of oil diplomacy with the formation of OPEC and the changes in the politics of trade in petroleum since 1973. Venn is Lecturer in History at the University of Essex. Select bibliography; index.

See also: Book Numbers JEL 87-0381, 87-0398, 87-0443, 87-0482, 87-0486, 87-0593, 87-0617, 87-0623

800 Manpower; Labor; Population

810 MANPOWER TRAINING AND ALLOCATION; LABOR FORCE AND SUPPLY

See also: Book Numbers JEL 87-0594, 87-0603

820 LABOR MARKETS; PUBLIC POLICY

AKERLOF, GEORGE A. AND YELLEN, JANET L., eds. *Efficiency wage models of the labor market*. Cambridge, New York and Melbourne: Cambridge University Press, 1986. Pp. ix, 178. \$29.95, cloth, \$9.95, paper. ISBN 0-521-32156-5.

JEL 87-0583

Ten papers, all previously published, examine efficiency wage models. The articles focus on three general areas. (1) rationales for efficiency-wage-generated unemployment, (2) the implications of certain model assumptions for contract forms and internal labor markets, and (3) the use of the models in development economics. Some specific topics are: the theory of unemployment in densely populated backward areas, equilibrium unemployment as a worker discipline device, labor contracts as partial gift exchange, a model of the natural rate of unemployment, job queues and layoffs in labor markets with flexible wages, hierarchy, ability, and income distribution, and the theory of labor contracts and labor contracts. The editors are at the University of California, Berkeley.

BERKOWITZ, MONROE. *Disability and the labor market: policies, and practices*.

University, New York

and Labor Relations. ILLINOIS

\$34.00. ISBN 0-87546-125-5

JEL 87-0584

Ten papers presented at a meeting on the economics of disability in Washington in April 1985. Specific essays deal with social security disability policy in the 1980s, labor supply incentives and disincentives for the disabled, lessons learned from the worker compensation program, worker compensation and employment, transitional and supported employment, job displacement, accommodating disabled persons in private industry, and the Rehabilitation Act and discrimination against the handicapped. The final paper compares disability policy in the United States with those of Sweden and the Netherlands. Concludes that disability policy in the United States has not been developed

in a unified or coherent manner and that funds should be invested in disability prevention. Berkowitz is Professor of Economics and Hill is an Assistant Professor of Economics, both at Rutgers University. Index.

Björkman, James Warner, ed. *The changing division of labor in South Asia: Women and men in India's society, economy, and politics*. Riverdale, Md.: Riverdale, 1986. Pp. xiv, 152. \$19.00. ISBN 0-913215-05-8. JEL 87-0585

Ten papers that are revised versions of presentations made at a symposium held at the University of Wisconsin in November 1984. Papers examine South Asia's changing division of labor and, in particular, its relation to roles of women in society, the economy, and politics. Six papers address the impact of technology on the changing division of labor in South Asia in terms of political and economic participation and government policies. Some topics are: changing gender roles in rural areas; work, gender, and technology in the informal sector in India; the impact of new technologies in agriculture; and industrial technologies and policies in India. Four papers consider the perceived value of women's work, patterns of ethnic identification, and political participation. The contributors are mainly economists and social scientists specializing in economic development and agriculture. The author is a political scientist specializing in the comparative politics of health, public policy, and administration. Index.

Chelius, James, ed. *Current issues in workers' compensation: Papers presented at a conference sponsored by: The Institute of Management and Labor Relations and the Bureau of Economic Research, Rutgers, The State University of New Jersey; The New York State School of Industrial and Labor Relations, Cornell University; and The Economics Department, the University of Connecticut*. Kalamazoo, Mich.: W. E. Upjohn Institute for Employment Research, 1986. Pp. vi, 372. Paper. ISBN 0-88099-036-8. JEL 87-0586

Fourteen papers discuss the status of, and trends in, worker's compensation. Topics include: the Minnesota experience; the 1982 changes in California; workers' compensation reform in Michigan; the politics of workers' compensation reform; interstate variations in employers' costs; the determination and regulation of workers' compensation insurance rates; the administration of workers' compensation; federal occupational disease legislation; and the impact of accident compensation on managerial perceptions and behavior in New Zealand. The contributors are mainly economists, lawyers, industrial relations specialists, government

officials, and management specialists. Chelius is associated with the Institute of Management and Labor Relations, Rutgers University. No index.

Corson, Walter; Hershey, Alan and Kerachsky, Stuart. *Nonmonetary eligibility in state unemployment insurance programs: Law and practice*. Kalamazoo, Mich.: W. E. Upjohn Institute for Employment Research, 1986. Pp. xvii, 138. \$19.95, cloth, \$14.95, paper. ISBN 0-88099-038-4, pbk. JEL 87-0587

An investigation of the effect of state laws, regulations, and procedures on nonmonetary eligibility for unemployment insurance. Based on regression analysis of quarterly state data for the period 1964-81, the study assesses the relationship between each major category of nonmonetary eligibility and a set of variables reflecting the guidelines of state laws. The rate of denial of benefits on the basis of nonmonetary rules is used as a measure of the state's effectiveness at enforcing rules. Outlines means whereby state agencies can minimize violation of nonmonetary eligibility rules and detect and deal with any violations that occur. Corson and Kerachsky are both Senior Economists and Hershey is a Senior Policy Analyst at Mathematica Policy Research, Inc. No index.

Danson, Mike, ed. *Redundancy and recession: Restructuring the regions?* Norwich, England: Geo Abstracts, Geo Books, 1986. Pp. xii, 174. £ 25.00. ISBN 0-86094-201-5. JEL 87-0588

Eleven papers, most originating at a meeting of the U.K. Economic and Social Research Council's Urban and Regional Economics Seminar Group at the University of Reading in July 1983. Papers consider aspects of the recession and economic crisis from 1980 to 1984. Topics include: the urban-rural shift and employment change in Britain, 1971-81; employment impact of the Merseyside motor vehicle assembly industry; labor adjustment and the limits to voluntary choice; unemployment in the relatively prosperous region of Hertfordshire; Austrian and Canadian experiences with regional restructuring; trade unions, consultation, and redundancies; and the longer term impact of policies of regeneration at the local level. The contributors are mainly economists and urban and regional development specialists. Danson is at Glasgow University. No index.

George, Victoria and Hembree, William E. *Breakthroughs in health-care management: Employer and union initiatives*. New York: Oxford: Toronto and Sydney: Pergamon Press, 1986. Pp. x, 213. \$22.50. ISBN 0-08-032798-2. JEL 87-0589

Contains twenty-five case studies of programs of major employers, unions, and communities in the United States that have achieved both cost-effective and high-quality health care. They are chosen to illustrate the importance and role of comprehensive overall health-care cost containment strategies and plans, employee incentives, alternative delivery systems, labor-management joint efforts, union initiatives, and focused programs. Some examples of specific programs cited are those of: Johnson & Johnson, Honeywell, Hewlett-Packard, the UAW, Toledo Business Coalition on Health Care, and the Cornell University-New York Hospital. George is a health research analyst and Hembree is Director, Health Research Institute, Walnut Creek, California. Glossary; index.

GINZBERG, ELI; NOYELLE, THIERRY J. AND STANBACK, THOMAS M., JR. *Technology and employment: Concepts and clarifications*. Boulder, Colo., and London: Westview Press, 1986. Pp. xi, 111. \$27.50. ISBN 0-8133-0399-0. JEL 87-0590

First of four studies presenting the research on technology and employment conducted by Conservation of Human Resources of Columbia University. Identifies the major impacts of the computer-communications technology on the employment of various groups that are especially vulnerable to the changes that are taking place. Argues that the increased skill requirements caused by these technological changes are affecting those least prepared, least trained, and least educated. Advocates an increasing emphasis on education and training of the displaced workers. Describes work force trends, technology and women, technology and equal employment opportunity, technology and metropolitan economies, especially the rise of services, and a case study of New York City. Concludes with a discussion of directions for policy and future research. Ginzberg is A. Barton Hepburn Professor Emeritus at Columbia University. Noyelle is a senior research scholar, Conservation of Human Resources, Columbia University. Stanback is a Professor of Economics at New York University. Index.

GRUBEL, HERBERT G. AND BONNICK, JOSEF. *Why is Canada's unemployment rate so high? A labour market and technology explanation of the divergence of unemployment rates in Canada and the United States 1960-85*. Focus series, no. 19. Vancouver, British Columbia: Fraser Institute, 1986. Pp. viii, 68. \$5.00, paper. ISBN 0-88975-089-0. JEL 87-0591

Persistently high unemployment rates in Canada are discussed in the context of the divergence of

Canadian/U.S. rates. Finds that the macroeconomic determinants of unemployment do not explain recent North American developments. Notes that differences in the level of demand stimulation do not explain the divergence. Concludes that monetary policy had about the same effect on demand in both countries. Attributes most of the divergence in rates to microeconomic factors, such as a 40 percent faster growth in real wages in Canada (1965-84), more rapid use of capital and technology as labor saving policies in Canada, and a more rapid rise in productivity in Canada. Also argues that more lucrative unemployment compensation policies in Canada delay the process of seeking work by the unemployed. Concludes that Canada must realign its real wage and productivity levels and institute structural changes to increase the flexibility of real wages. Grubel is Professor of Economics at Simon Fraser University. Bonnick is Lecturer at Deakin University, Geelong, Australia. No index.

LALONDE, ROBERT AND PAPANDREOU, NICK. *The manpower report of KEPE. The characteristics of the Greek labor market*. Centre of Planning and Economic Research. Analyses of Statistical Data series, no. 4. Athens: Centre of Planning and Economic Research, 1986. Pp. 122. Paper. JEL 87-0592

Reference book of data on the Greek Labor market that surveys recent employment and unemployment trends in Greece with a focus on the composition of the labor force by type of occupation, changed over time, present and discussed type of compensation, factoring industries, the rural sector. Labor Force Survey, Statistical Service of Greece. Two-thirds of the report contain statistical tables compiled from several sources of labor market data, they pertain to characteristics of employment and unemployment, statistics on population, education and labor force, hours and earnings in agriculture and non-agriculture establishments, and monthly strike data for 1976-83. The authors are at the Centre of Planning and Economic Research, Athens and Princeton University. Bibliography, no index.

PHILIP, NORMAN E. *The cash incentive: The economic response of semi-subsistent craftworkers in Papua New Guinea*. Pacific Research Monograph series, no. 13. Canberra: Australian National University,

National Centre for Development Studies, 1986. Pp. xii, 135. Paper. ISBN 0-86784-984-3.

JEL 87-0593

Describes and analyzes aspects of the economic behavior of a small group of piece-rate cash workers in a Melanesian economy in transition from a traditional subsistence to a cash economy. Presents the geographical environment in which the weavers lived and worked, the structure of the weaving industry, and demographic characteristics of the weavers and their families. Studies the monetary and nonmonetary incomes of the weaver households and accounts for the monetary outlays and activity patterns of sampled workforce members. Develops a formal econometric model of labor effort response that allows the effect of wage-rate variation on effective work effort to be isolated and measured. Finds that slightly less than 40 percent of the potential earning capacity was used by the average member of this workforce. The concluding chapter evaluates the results, merits, limitations, and policy implications of the study. Philp is Senior Lecturer in Economics, Riverina-Murray Institute of Higher Education, Wagga Wagga, New South Wales, Australia. No index.

VILLA, PAOLA. *The structuring of labour markets: A comparative analysis of the steel and construction industries in Italy*. Library of Political Economy series. Oxford; New York; Toronto and Melbourne: Oxford University Press, Clarendon Press, 1986. Pp. xx, 420. \$64.00, cloth; \$29.95, paper. ISBN 0-19-828508-6.

JEL 87-0594

Investigates the issue of labor market segmentation, developing the theoretical position by comparing the steel and construction industries in Italy. Focuses on the forces that determine the structuring of labor markets and investigates how and why workers with similar characteristics are treated differently in different segments of the labor market. Analyzes the structure of the labor market in the two industries, including the impacts of technological conditions, the influence of division of labor, and the internal organization of the jobs. Examines the dynamics of labor market structure, analyzing the role of labor/management relations and the evolution of labor market structures in the two industries. Conclusions discuss the structuring of labor markets, favoring the noncompeting wage group argument. Contends that "laborer market structures . . . do not exist in a vacuum: economic and technological factors differ between historical periods, economic systems, sectors, industries, and firms." Based on the author's Ph. D. dissertation at the University of Cambridge. Villa is a researcher in the Faculty of Economics at the Catholic University in Milan. Index.

ZABALZA, A. AND TZANNATOS, Z. *Women and equal pay: The effects of legislation on female employment and wages in Britain*. Cambridge; New York and Melbourne: Cambridge University Press, 1985. Pp. ix, 140. \$29.95. ISBN 0-521-30188-2.

JEL 87-0595

Argues that the factor responsible for the increase in female relative wages in Britain in the last decade or so was almost exclusively the anti-discrimination legislation. Finds that incomes policies had both a minor and short-lived effect. Attributes the improvement in women's relative wages to increases in relative pay within sectors and not to shifts in female employment from low- to high-paying jobs. Further, the improvement has not been accomplished at the expense of employment, since hours worked by women have increased relative to hours worked by men. Notes that the effects of legislation have been less satisfactory in the United States than in Britain, partly due to the nature of collective bargaining agreements in the United States. Projects that future improvements in relative female-male wages might be more difficult to achieve. Draws on the *New Earnings Survey* for much of the statistical information. Zabalza is Professor of Economics, University of Valencia and Tzannatos is Lecturer in Economics, University of Buckingham. Author and subject indexes.

See also: Book Numbers JEL 87-0359, 87-0533, 87-0593, 87-0594, 87-0625

830 TRADE UNIONS; COLLECTIVE BARGAINING; LABOR-MANAGEMENT RELATIONS

DORE, RONALD. *Flexible rigidities: Industrial policy and structural adjustment in the Japanese economy, 1970-80*. Stanford, Calif.: Stanford University Press, 1986. Pp. 278. \$32.50. ISBN 0-8047-1328-6.

JEL 87-0596

Argues that the Japanese work ethic assumes that workers can be trusted to be concerned about the quality of their output. Also notes quality, service, and loyalty as key attributes between buyers and sellers. Asserts that typical rigidities of the marketplace—unions, cartels, and tied dealerships—also exist in Japan, but that the economy has been able to adjust more readily and effectively than other nations to deal with the oil price increase, controlling inflation, and industrial shifts. After a survey of the major characteristics of the economy, focuses on the changes in economic structure during the decade and on "adjustive behavior" by businessmen, workers and their unions, and government. Presents a case study of the textile industry. A substantial part of this volume is based on a monograph by the author with contribu-

tions by Professor Kōji Taira of the University of Illinois and published by the International Labour Office as *Structural Adjustment in Japan, 1970-82*. Dore is the Reischauer Visiting Professor at Harvard University. Bibliography; index.

GREENBERG, EDWARD S. *Workplace democracy: The political effects of participation*. Ithaca, N.Y., and London: Cornell University Press, 1986. Pp. 259. \$29.95. ISBN 0-8014-1921-2. JEL 87-0597

Examines to what extent workplace democracy has achieved its goals, such as alleviating worker alienation, nurturing class consciousness as a strategy for superseding capitalism, and fostering political participation. This book is part of the final report of a study of the Pacific Northwest cooperatives, undertaken to examine whether evidence supports these claims. Describes the nature of the democratic Left and the appeals of workplace democracy in the United States and in other instances such as the Israeli Kibbutz, the Yugoslav system of worker self-management, the industrial democracy of Salvador Allende in Chile, the Mondragon cooperatives in Spain, and the numerous programs in Sweden and Norway. Examines the plywood cooperatives in greater detail from three traditions or perspectives—the problem of alienation, participatory democracy, and rejection of market capitalism and Soviet-style socialism in favor of "socialism with a human face." Discusses alienation in the cooperatives and compares the nature and extent of it with alienation in democratic industrial work settings in other societies. Presents a comparative analysis of class consciousness and examines the political effects of workplace democracy. Finds the U.S. experience less successful than the foreign ones in developing attitudes and behavior inconsistent with the prevailing social, economic, and political climate. Greenberg is Professor and Chair, Department of Political Science at the University of Colorado. Bibliography; index.

HERMAN, E. EDWARD; KUHN, ALFRED AND SEEBER, RONALD L. *Collective bargaining and labor relations*. Second edition. Englewood Cliffs, N.J.: Prentice-Hall, [1981] 1987. Pp. xviii, 621. ISBN 0-13-140575-6. JEL 87-0598

Second edition of a textbook designed for use by undergraduate and beginning graduate students in industrial relations and collective bargaining. Statistical materials and bibliography have been updated. Newer research findings are also incorporated. Reflects major changes in industrial relations, influenced by economic fluctuations, new technologies, foreign competition, and the Reagan administration. Focuses on the bargaining unit, preparation for bargaining, costing of labor con-

tracts, the bargaining process, management and union security, concessions, the bargaining simulation, and recent arbitration cases. In seven parts: development and growth of the labor movement; the legal framework; the framework of collective bargaining, preparation for bargaining and costing of labor contracts, the bargaining process—theory, power, negotiations, and impasses; the content of collective bargaining; and special topics. Also includes a collective bargaining simulation and arbitration cases. Herman is at the University of Cincinnati. The late Alfred Kuhn was at the University of Cincinnati. Seeber is at the New York State School of Industrial and Labor Relations, Cornell University. Bibliography; glossary; index.

INTERNATIONAL LABOUR OFFICE. *Job evaluation*. Geneva. Author, 1986. Pp. xi, 203. Paper. ISBN 92-2-103541-7. JEL 87-0599

Originally published in French under the title *L'évaluation des emplois*. A description of job evaluation, a management technique aimed at establishing pay structures within enterprises that are fair and equitable, and reducing the dissatisfaction associated with internal pay differentials. Describes the main features of job evaluation and outlines the basic steps in job analysis, description, and evaluation. Reviews different methods of job evaluation and certain issues and problems that arise in its application. Identifies the factors to be considered in the choice of evaluation method and examines internal consistency of job evaluation. Outlines the use of job evaluation to achieve equal pay through job classification. Discusses issues associated with job evaluation, including advantages and disadvantages. Provides examples of job evaluation and guidelines for their use.

KOCHAN, THOMAS A., KATZ, DAVID L. and SIEF, ROBERT B. *The transformation of American industrial relations*. New York: Basic Books, 1986. Pp. xviii, 287. \$22.95. ISBN 0-465-08696-9. JEL 87-0600

Summarizes the findings, conclusions, and implications for theory, policy, and practice of a collaborative research project conducted at Massachusetts Institute of Technology, "U.S. Industrial Relations in Transition." Presents an account of the transformation of the New Deal system of collective bargaining. Discussions detail the transformation forces, such as concession bargaining, changes in work rules, and worker representation. Traces the post-World War II evolution of industrial relations, noting that they were shaped by the rise, maturation, and eventual weakening of the collective bargaining system. Describes the emergence of the

nonunion system of industrial relations, industrial relations at the workplace, the process and results of collective bargaining, the changing workplace, union engagement in strategic business decisions, and the workers' views of the process. Argues that industrial relations practices and outcomes are shaped by interactions of environmental forces along with the strategic choices of those involved in industrial relations policy and practice. Concludes with four scenarios presenting strategic choices for the future. Kochan and McKersie are Professors of Industrial Relations at the Sloan School of Management at Massachusetts Institute of Technology. Katz is Assistant Professor of Collective Bargaining at the New York State School of Industrial Relations at Cornell University. Index.

- LIPSKY, DAVID B. AND LEWIN, DAVID, eds. *Advances in industrial and labor relations*. A Research Annual series. Volume 3. Greenwich, Conn., and London: JAI Press, 1986. Pp. viii, 316. \$27.25. ISBN 0-89232-642-5. JEL 87-0601

Nine essays on industrial relations regulation, bargaining theory, progressive discipline, and occupational influences on unionism. Topics discussed include: collective bargaining in regulated industries; a theoretical and empirical analysis of delay in the union election campaign; a cost-benefit analysis of interest arbitration in the public sector; unions, turnover, and employment variation; a model of arbitration and the incentive to bargain; power dependence in collective bargaining; the origin, development, and consequences of progressive discipline in American industry; and job content, job status, and unionism. Lipsky is at the New York State School of Industrial and Labor Relations, Cornell University. Lewin is with the Graduate School of Business, Columbia University. No index.

- SHENFIELD, ARTHUR. *What right to strike?* With commentaries by CYRIL GRUNFELD AND SIR LEONARD NEAL. Hobart Paper series, no. 106. London: Institute of Economic Affairs; distributed in North America by Transatlantic Arts, Albuquerque, New Mexico, 1986. Pp. 64. \$7.50, paper. ISBN 0-255-36190-4. JEL 87-0602

Argues that the right to strike, compatible with a free society, means the right to withdraw one's labor, but does not include the right to keep others from working. Examines the confusion surrounding the unique legal status of unions, which enjoy some of the rights and powers of corporate bodies but yet themselves are not bodies corporate. Part 1 presents a detailed analysis of what is a strike, including legal definitions, rights and remedies, the

concept of unfair dismissal, and sit-ins. Part 2 examines the theory of the worker's bargaining disadvantage, such as the lack of reserve and labor being a perishable commodity. The final part presents fourteen points in a proposal for reform of trade unions. Shenfield has been a Visiting Professor at several American universities and Lecturer in Economics at the University of Birmingham. No index.

- SILVER, MARK L. *Under construction: Work and alienation in the building trades*. SUNY Series in the Sociology of Work. Albany: State University of New York Press, 1986. Pp. xi, 251. \$34.50, cloth; \$12.95, paper. ISBN 0-88706-308-X. JEL 87-0603

Reviews the organization and work relations in the construction industry, examining the effects of local market conditions, employer demands, and trade union activities on the daily lives of workers, both skilled and unskilled, all within the context of capitalist relationships. Challenges popular ideas about the building trades and construction work, with special reference to construction sites, hiring practices, and worker reactions to work conditions. Questions the extent of craft autonomy and attempts to explain how relations in the labor process foster both progressive and reactionary orientations among building tradesmen. Discusses worker autonomy versus management control at the construction site and the relationships among trade unions, contractors, and employment. Suggests a strategy for overcoming market forces in labor relations and housing production. Silver is an Assistant Professor of Sociology at Hofstra University. Bibliography; name and subject indexes.

- TAYLOR, BENJAMIN J. AND WITNEY, FRED. *Labor relations law*. Fifth edition. Englewood Cliffs, N.J.: Prentice-Hall, [1971 . . . 1983] 1987. Pp. xvii, 862. ISBN 0-13-519861-2. JEL 87-0604

Fifth edition [see JEL no. 83-0523 for annotation of the fourth edition] of a textbook on labor relations law is intended for undergraduate and graduate liberal arts and business schools and for union and business personnel with little legal background. Includes the new doctrines established by the National Labor Relations Board and the courts since the prior edition, concentrating on major developments rather than on all changes. Examines a group of controversial cases, including "red letter" ones. Changes also include a discussion of the federal courts' responses to comparable worth, and public sector organization and collective bargaining. The Taft-Hartley commentaries have been revised and updated. The Landrum-Griffin Act presentation has been expanded to include discussion of the use of labor consultants, as well as being

revised and updated. Taylor is at the University of Oklahoma, and Witney is at Indiana University. Bibliography; index of cases; general index.

See also: Book Numbers JEL 87-0386, 87-0542, 87-0607

840 DEMOGRAPHIC ECONOMICS

BIANCHI, SUZANNE M. AND SPAIN, DAPHNE. *American women in transition. The Population of the United States in the 1980s: A Census Monograph Series.* New York: Russell Sage Foundation for the National Committee for Research on the 1980 Census, 1986. Pp. xxii, 286. \$32.50, cloth; \$14.95, paper. ISBN 0-87154-112-2, pbk. JEL 87-0605

Analysis of the characteristics and impact of the major demographic and social changes in the U.S. economy since World War II on the role and position of women. Reviews changes in marriage patterns, fertility, and household living arrangements. Traces the increasingly public roles of women by examining their educational attainment and its relationship to marriage and fertility, labor force participation and occupational composition, and the correlation among these factors and women's earnings. Examines the relation between living arrangements, income, and poverty and between fertility and work force participation. Assesses the success of women at balancing their private and public roles. Bianchi is a demographer at the Center for Demographic Studies, U.S. Bureau of the Census. Spain is Assistant Professor of Sociology and of Urban and Environmental Planning at the University of Virginia. Bibliography, index.

KEOGH, GARY AND WHELAN, BRENDAN J. *A statistical analysis of the Irish electoral register and its use for population estimation and sample surveys.* Dublin: Economic and Social Research Institute, 1986. Pp. 126. Ire £ 6.50, paper. ISBN 0-7070-0083-1. JEL 87-0606

Analysis of the accuracy of the Irish electoral register and the extent to which inaccuracies in the register affect the results of research based upon it. Examines the entry and exit pattern of the register and investigates its correspondence to trends in the population. Creates a data set for the construction of independent variables to be employed for regression analysis using time-series data. Conducts population estimates on the basis of this data set. Investigates the effectiveness of the electoral register as a sampling frame, identifies biases, and presents some recommendations regarding the use of the register for electoral purposes. Keogh is an Assistant Research Officer and Whelan is a Research Professor at the Economic and Social Research Institute, Dublin. No index.

POZO, SUSAN, ed. *Essays on legal and illegal immigration: Papers presented in a seminar series conducted by the Department of Economics at Western Michigan University.* Kalamazoo, Mich.: W. E. Upjohn Institute for Employment Research, 1986. Pp. v, 128. \$13.95, cloth; \$8.95, paper. ISBN 0-88099-040-6, pbk. JEL 87-0607

Seven papers, originally presented as public lectures during 1984-85, discuss and analyze many of the issues debated during the passage of the recent federal immigration reform measure. Describes various approaches for handling the issue of illegal immigration, ranging from those that increase the cost of such migration to stricter enforcement of entry. The introductory essay discusses the multifaceted nature of the immigration debate. Other topics include control of international migration, the need for immigration reform, the illegal alien policy dilemma, the effects on the U.S. labor market, and the effects on U.S. taxpayers. The final essay discusses the desirable policy objectives and suitable policy instruments to achieve them. Contributors are: the editor, George J. Borjas, Michael J. Piore, Vernon M. Briggs Jr., Barry R. Chiswick, Francine D. Blau, and Jagdish N. Bhagwati. Pozo is at Western Michigan University. No index.

See also: Book Numbers JEL 87-0385, 87-0605

900 Welfare P. Economics: I.

910 WELFARE

ABEGAZ, BEHMANU. *Studies of mass poverty. Studies in mass poverty series, no. 29.* Williamsburg, Va.: Ham and Mary, Department of Anthropology, 1986. Pp. xiv, 142. Paper. JEL 87-0608

Four papers examine the demographic characteristics of mass poverty in societies experiencing economic development. Behman Abegaz examines the theoretical issues in the measurement of poverty, the relationship between income distribution and demographic processes, and the extent of international and regional inequality and poverty. M. Khan analyzes the relationship between rural poverty and demographic behavior in Bangladesh. C. Isiugo-Abanihe discusses the linkage between child fostering and fertility in West Africa. C. H. Wood and S. D. McCracken review the nature of underdevelopment, urbanization, and collective social action in São Paulo. The contributors are economists and social scientists. Abegaz is Assistant

Professor of Economics at the College of William and Mary. No index.

AIKEN, LINDA H. AND MECHANIC, DAVID, eds. *Applications of social science to clinical medicine and health policy*. New Brunswick, N.J.: Rutgers University Press, 1986. Pp. ix, 588. Paper. ISBN 0-8135-1149-6. JEL 87-0609

Twenty-four papers selected to assess the relevance, application, and contribution of various areas of social science and health services research for health policy and clinical care in the United States. Part 1 examines the social contexts of health care and policy such as the interplay between values, science, technology and social structure, the effect of social stratification on health, and the changing health care system. Part 2 focuses on significant research contributions relating to: the prevention and treatment of major causes of cardiovascular disease, cancer, and mental illness; the assessment of health status; and social experiments in health. Papers in part 3 consider health and illness over the life cycle. The papers in part 4 discuss prevention, caring, and social processes affecting vulnerability to illness and the outcomes of patient-practitioner relationships. Part 5 addresses the organization, financing, and provision of health care services. Aiken is Vice-President, Robert Wood Johnson Foundation, Princeton, New Jersey. Mechanic is René Dubos Professor of Behavioral Sciences, Rutgers University. Index.

BAGBY, NANCY S. AND SULLIVAN, SEAN. *Buying smart: Business strategies for managing health care costs*. AEI Studies series, no. 444. Washington, D.C.: American Enterprise Institute for Public Policy Research, 1986. Pp. xi, 66. Paper. ISBN 0-8447-3604-X. JEL 87-0610

Analysis of attempts by private employers and business coalitions to check increases in health care costs. Discusses the nature of initiatives by the Midwest Business Group on Health, private-sector attempts to increase competition in the provision of health care in Iowa, and the nature of cost management strategies by Honeywell Inc. and Control Data Corporation. Bagby is a consultant to the American Enterprise Institute's Center for Health Policy Research. Sullivan is a Senior Associate at the American Enterprise Institute's Center for Health Policy Studies. No index.

BERGMANN, BARBARA R. *The economic emergence of women*. New York: Basic Books, 1986. Pp. x, 372. \$19.95. ISBN 0-465-01796-7. JEL 87-0611

Explores the origins and consequences of the changing role of women from that of housewives to wage earners. Discusses the breakup of the "sex role caste system," focusing on women's place in

the labor market, the future of the two-parent family, and the changes in male lives. Describes the economic impetus behind the emergence of working women; the influence of social factors—births, schools, divorces, and ideas; the place of women in the labor market; sex segregation on the job as the root of women's disadvantage; why female wages are low; fighting discrimination through affirmative action; achieving pay equity; the job of a housewife; poverty and single parents; the economics and politics of keeping house and family care; and child care. Presents some international comparisons of the status of women in paid employment. Concludes with a policy agenda to address the sex role revolution. Bergmann is a Professor of Economics at the University of Maryland. Bibliography, index.

BERNSTEIN, BLANCHE. *Surviving a generation*. Twentieth Century Fund Paper series. New York: Priority Press, 1986. Pp. vi, 63. \$7.50, paper. ISBN 0-87078-206-1. JEL 87-0612

Analysis of the demography of poverty. Focuses on female-headed families and examines the possible benefits of economic measures to reduce poverty. Discusses recent changes in social behavior such as teenage pregnancy, school and college dropouts and family stability. Investigates the probable impact of welfare reform and the feasibility of various solutions to the problem. Contends that intervention aimed at changing social behavior is necessary to counteract further breakdown in the structure of the family and its associated problems. No index.

BUTLER, JAMES R. G. AND DRIESSEL, DARRYL P., eds. *Economics and health 1985: Proceedings of the Seventh Australian Conference of Health Economists*. Australian Studies in Health Service Administration series, no. 56. Kensington, New South Wales: University of New South Wales, School of Health Administration, 1986. Pp. iv, 249. Paper. ISBN 085832-053-3. JEL 87-0613

Nine essays and discussions consider the following topics: (1) a policy perspective on unemployment and health in Australia; (2) a comparison of the resource need index and information theory measures for analyzing hospital case mix standardization; (3) the implications of the New South Wales doctors' dispute; (4) a longitudinal study of health changes following the introduction of Medicare in Western Sydney; (5) a contingency approach to the design and use of budgeting in a public teaching hospital; (6) a comparative cost analysis of terminal cancer care; (7) hospital output and the use of diagnosis-related groups for purposes of economic and financial analysis; (8) the allocation of

hospital costs to the type of case; and (9) the economics of reducing hypertension through reduction in sodium intake. Butler is with the Department of Marketing and Applied Economics at Brisbane College of Advanced Education. Doessel is with the Department of Economics, University of Queensland. No index.

JIN, ELCHANAN, ed. *Federal block grants to education*. Oxford: New York; Toronto and Sydney: Pergamon Press, 1986. Pp. vii, 163-277. \$19.50. ISBN 0-08-032691-9. JEL 87-0614

Eleven papers discuss the theory and implementation of federal education block grants. Part 1 describes the act and the debate surrounding its legislation. Part 2 presents case studies of its implementation in Colorado, Michigan, Nebraska, Pennsylvania, South Carolina, Tennessee, Texas, and Washington. Part 3 presents alternative views of the merits of block grants to education. The contributors are mainly economists and education specialists. Cohn is Professor of Economics at the University of South Carolina. Index.

EWERS, DONALD N. *Controlling asbestos in buildings: An economic investigation*. RFF Study series. Washington, D.C.: Resources for the Future, distributed by Johns Hopkins University Press, Baltimore, Md., 1986. Pp. v, 106. \$9.95, paper. ISBN 0-915707-27-6. JEL 87-0615

Addresses the differences between owners and tenants over what to do about asbestos currently in buildings. Study focuses on the economic implications of choosing different times to remove the asbestos—removing it at once, controlling it in some other way, or leaving it to be removed at renovation or demolition of the structure. Develops a methodology for economic analysis of asbestos control programs in existing buildings and presents the results of three case studies. Finds that, if the asbestos materials are in good condition and undisturbed, the risks to health of building occupants is low and do not justify the costs involved in immediate removal. Dewees is a Professor of Economics and Law at the University of Toronto. No index.

GREEN, DAVID G. *Challenge to the NHS. A study of competition in American health care and the lessons for Britain*. Hobart Paperback series, no. 23. London: Institute of Economic Affairs, distributed in North America by Transatlantic Arts, Albuquerque, New Mexico, 1986. Pp. xv, 116. \$14.95, paper. ISBN 0-255-36194-7. JEL 87-0616

Examines whether a competitive market in health would make an attractive alternative to the British National Health System. Reports on re-

search in the area of recent developments in the health-care market in the United States, especially changes in the organization and finance of services provided by doctors, hospitals, and insurance companies. Argues that the principal failings of American medical care have not been the result of competitive markets, but the doctors' "professional closed shop," which restricted entry of medical students, but is now breaking down. Traces the U.S. history, including the rise of monopoly, control over hospitals, antitrust action, the emergence of competition, and the impact on the poor. Recommends reform in the U.K. with three principles—the poor should be protected by the government expenditure for health care should be a private decision, and the government should promote competition by ending the NHS monopoly. Green is a Research Fellow at the Institute of Economic Affairs, London. Bibliography, glossary, no index.

GREER, JOEL AND THORBECKE, EMIL. *Food poverty and consumption patterns in Kenya*. Geneva: International Labour Office, 1986. Pp. xii, 170. Sw Fr 20.00, paper. ISBN 92-2-105374-1. JEL 87-0617

Analysis of the relationship between changes in the relative price of food and the incidence of poverty in Kenya. Evaluates alternative measures of poverty and defines the concept of food poverty. Examines food consumption patterns and estimates the incidence of food poverty among smallholders in different provinces in Kenya. Identifies determinants of food consumption and the impact of relative food consumption, and on general guidelines for the adverse effects of food. Greer is in the Economics and Food Unit, University of Cambridge. Thorbecke is the University of Nairobi. No index.

HELLER, PETER S., HEMMING, RICHARD AND KOENIG, PETER W. *Aging and social expenditure in the major industrial countries, 1980-2025*. Occasional Papers series, no. 47. Washington, D.C.: International Monetary Fund, 1986. Pp. viii, 76. \$7.50, paper. ISBN 0-939934-68-X. JEL 87-0618

Examines the impact of prospective demographic trends and other factors on the level and structure of social expenditure by the governments of the seven major industrial countries (Canada, France, West Germany, Italy, Japan, the United Kingdom, and the United States) through the year 2025. Also reviews key policy issues likely to emerge, both at an aggregate and a sectoral level.

and types of policies countries have initiated in trying to cope with the demographic trends. Presents the results of the projections for major social expenditure programs and their key policy issues. Sectoral chapters also indicate types of policy actions introduced by different countries to stem the likely growth in expenditure. Reflects data available prior to June 1985. A general conclusion is that there will be a need for additional policy measures to contain the real increase in per capita benefits, especially in those countries with high tax rates. The authors are in the Fiscal Affairs Department, International Monetary Fund. No index.

PETERSON, PAUL E.; RABE, BARRY G. AND WONG, KENNETH K. *When federalism works*. Washington, D.C.: Brookings Institution, 1986. Pp. xvi, 245. \$28.95, cloth; \$10.95, paper. ISBN 0-8157-7020-0.

JEL 87-0619

Explores the conventional wisdom on federal grants by examining the operations of nine federal programs in health care, education, and housing. Reviews these programs in four cities and concludes that they operated more effectively than originally believed possible. Emphasizes the importance of competent managerial professionals and avoidance of local political conflicts. Begins with an examination of the rapid development of the federal system of intergovernmental grants since World War II. Discusses theories of federal programs such as supportive and redistributive goals. Cites examples and proposes answers concerned with why some programs have worked well and others have had little success. Proposes reforms to make the federal grants-in-aid programs more effective, especially for disadvantaged groups and others requiring special needs. Peterson is Director of the Governmental Studies program at the Brookings Institution. Rabe is an Assistant Professor of Health Politics, University of Michigan. Wong is Assistant Professor of Political Science, University of Oregon. Index.

PSACHAROPOULOS, GEORGE; TAN, JEE-PENG AND JIMENEZ, EMMANUEL. *Financing education in developing countries: An exploration of policy options*. Washington, D.C.: World Bank, 1986. Pp. iv, 67. Paper. ISBN 0-8213-0777-0.

JEL 87-0620

Presents policy options to remedy problems in education, perceived as underinvestment, misallocation of resources across levels of schooling, inefficiencies within schools, and social inequalities in developing countries. The options considered are: selective user charges and reallocation of public spending among levels of schooling, selective scholarships and development of a credit market for student loans, and decentralization of the man-

agement of public education and encouragement of the expansion of private and community-supported schools. Analyzes the effects of such a policy package and discusses its implementation. About a third of the book consists of an appendix of statistics on education in developing countries. The authors are in the Research Division, Education and Training Department, World Bank, Washington, D.C. Bibliography; no index.

ROSE, RICHARD AND SHIRATORI, REI, eds. *The welfare state: East and West*. Oxford; New York: Toronto and Melbourne: Oxford University Press, 1986. Pp. 213. \$29.95. ISBN 0-19-503956-4.

JEL 87-0621

Nine essays examine the welfare state and consider how the provision of welfare differs in societies that are similar in their high standards of material wealth—the United States, Japan, Britain, Scandinavia, West Germany, and Israel. Richard Rose examines the state's contribution to total welfare in society. Nathan Glazer describes features of social policy in the United States. Naomi Maruo deals with the development of the welfare mix in Japan. Rose discusses the dynamics of social policy in Britain. Erik Allardt discusses the civic conception of the welfare state in Scandinavia. Wolfgang Zapf looks at the development and structure of the West German welfare system. Shmuel Eisenstadt examines welfare in Israel. Yukio Noguchi discusses the Japanese experience with pensions. Rei Shiratori considers the future of the welfare state. Rose is Director of the Centre for the Study of Public Policy at the University of Strathclyde, Glasgow. Shiratori is Professor of Government at the University of Essex and at Dokkyo University, Japan. Index.

UNITED NATIONS DEPARTMENT OF INTERNATIONAL ECONOMIC AND SOCIAL AFFAIRS. *Activities for the advancement of women: Equality, development and peace. Report of Jean Feraud-Laurent, Special Rapporteur on the suppression of the traffic in persons and the exploitation of the prostitution of others*. New York: United Nations, 1985. Pp. 69. \$10.50, paper. ISBN 92-1-130107-6.

JEL 87-0622

Synthesis of surveys and studies, including those done by the U.N. and other organizations since 1949, on the traffic in persons and exploitation of the prostitution of women and children. Describes the world of prostitution and slavery to which women and children are subjected as well as its international networks. Examines some national policies and offers suggestions for national policy and international cooperation to U.N. member states. Proposes a program of action aimed at pre-

venting prostitution, rehabilitating those engaged in prostitution, repressing the traffic in persons, preventing and treating venereal disease, and organizing global programs. Annexes contain supporting U.N. documentation and other documentation and report. Also available in French, Russian, and Spanish. Bibliography; no index.

See also: Book Numbers JEL 87-0392, 87-0454, 87-0490, 87-0543, 87-0584, 87-0585, 87-0589, 87-0595, 87-0605, 87-0612, 87-0618, 87-0622, 87-0625

920 CONSUMER ECONOMICS

CAPPS, ORAL, JR. AND SENAUER, BENJAMIN, eds. *Food demand analysis: Implications for future consumption*. Blacksburg: Virginia Polytechnic Institute and State University, Department of Agricultural Economics, 1986. Pp. xii, 292. Paper.

JEL 87-0623

Fourteen papers deal with analysis of demand for food, emphasizing the implications for future consumption; sponsored by Southern Regional Research Project S-165 and the Farm Foundation. Papers discuss topics such as market demand systems, the implications for demand projections of the global behavior of demand elasticities for food, U.S. household food expenditure patterns, aggregate food expenditure projections, factors affecting food consumption, the structure of the demand for food, and demographic factors affecting food consumption. Papers also discuss the demand for particular food groups and commodities, such as beef, citrus juices, and convenience foods and non-convenience foods, emphasizing demand specifications, model development, and empirical results, and examine specific demand analysis issues, significant from both a methodological and empirical perspective. The contributors are mainly economists. Capps is in the Department of Agricultural Economics at Texas A&M. Senauer is in the Department of Agriculture and Applied Economics at the University of Minnesota. Index.

EARL, PETER. *Lifestyle economics: Consumer behavior in a turbulent world*. New York: St. Martin's Press, 1986. Pp. xiii, 314. \$29.95. ISBN 0-312-48585-9.

JEL 87-0624

Outline of behavioral economics—an analysis of the economics of consumer behavior. Discusses the relationship between various segments of orthodox economics and the economics of consumer behavior. Explores similarities between the behavior of households and firms. Employs personal construct theory to focus on turbulence and strategic aspects of choice and analyzes the formation and evolution of expectations. Examines the process

of choice in the context of complexity and uncertainty. Discusses noncompensatory choices in retrospect and prospect and the nature of choice rules and the competitive process. Earl is Lecturer in Economics at the University of Tasmania. Bibliography; index.

HEWLETT, SYLVIA ANN; ICHIMAN, ALICE S. AND SWEENEY, JOHN J., eds. *Family and work: Bridging the gap*. Cambridge, Mass.: Harper and Row, Balinger, 1986. Pp. xiv, 218. \$29.95. ISBN 0-88730-066-9.

JEL 87-0625

Eighteen essays address the problems associated with the changing economic and social environment that has witnessed a transformation in the relationships between the workplace and the traditional family structure. Essays are based on a project and conference sponsored by the Economic Policy Council (EPC) of the United Nations Association of the United States. Expands on an earlier publication, *Work and Family in the United States: A Policy Initiative*, (1985). Papers cover a broad range of topics, among them: government and family policy; the role of collective bargaining in the determination of family policy, the origins, progress, and future of the Swedish family policy, child care in France, a description of the status of child care, how the United States compares in maternity, paternity, and parenting policies, early childhood education and the public schools, the ethics of a public preschool, federal child and family programs; why progress has been slow; benefits and assistance; earnings differentials; lessons for the U.S. as a family issue; parents, and the U.S. woman. The conference agenda for the future is discussed by mainly social scientists, labor officials, union officials, and specialists. Hewlett is Vice President for Economic Studies at the United Nations Association of the United States, Ichiman is President of Sarah Lawrence College, and Sweeney is President of the Service Employees International Union. Index.

IPOLITO, PAULINE M. AND SCHEFFMAN, DAVID T., eds. *Empirical approaches to consumer protection economics. Proceedings of a conference sponsored by the Bureau of Economics, Federal Trade Commission, April 26-27, 1984*. Washington, D.C.: Federal Trade Commission, 1986. Pp. n. 484. Paper.

JEL 87-0626

Thirteen papers, plus comments and opening remarks, presented at a Federal Trade Commission Conference, which had two goals: (1) highlighting

the paucity of empirical research examining consumer information and theories and (2) bringing together economists with varied interests in policy and the economics of information. An introductory paper reviews the status of economics of information literature relating to consumer protection issues such as liability rules, deception, minimum quality standards, and fraud. The volume is organized in four sections: quality issues, advertising, experimental studies, and econometric studies. Specific papers deal with housing quality, warranty provisions on used cars, advertising and consumer learning, quality uncertainty, warranty coverage and dispute resolution, product recalls, consumer shopping behavior in the retail coffee market, and government policy and the cigarette industry. Ippolito is Assistant Director for Industry Analysis, Bureau of Economics, Federal Trade Commission. Scheffman is Acting Director and Deputy Director for Competition and Antitrust of the same agency. No index.

TAYLOR, JEFFREY B. AND HARDEE, KAREN A. *Consumer demand in China: A statistical factbook*. Westview Special Studies on China. Boulder and London: Westview Press, 1986. Pp. xxii, 187. Paper. ISBN 0-8133-7310-7. JEL 87-0627

A factbook about the nature and characteristics of consumer demand in China. Part 1 presents an overview of income and consumption patterns. Provides information regarding urban-rural and provincial patterns of income and expenditure as well as a detailed consumer profile. Part 2 contains statistical tables providing national and provincial data on income and wages, expenditure disaggregated into general categories, consumption of individual commodities, retail sales, ownership of durable goods, and housing as well as data on price indexes and exchange rates. The authors are associated with the U.S. Bureau of the Census. Bibliography; no index.

See also: Book Numbers JEL 87-0360, 87-0361, 87-0617

930 URBAN ECONOMICS

TAYLOR, RALPH B., ed. *Urban neighborhoods: Research and policy*. New York and London: Praeger, 1986. Pp. xiv, 376. \$35.00. ISBN 0-275-92017-8. JEL 87-0628

Eleven essays explore the relationship between neighborhood research and policy. Two papers consider the accomplishments and the limitations of neighborhood planning in the United States, and the promise and reality of neighborhood-based participation in the planning process. One paper examines informal social control and crime prevention in modern urban neighborhoods. Two papers

explore issues pertaining to neighborhood economics: housing prices and neighborhood characteristics, and the role of the small commercial center in the urban neighborhood. Three papers are case studies of neighborhood improvement projects; they focus on the appropriate roles of the planner and community in small-scale improvement and development efforts, roles for research and the researcher in neighborhood development, and intervention to enable neighborhood mobilization. Three studies consider neighborhood fabric and viability; they discuss the use of research to build stronger neighborhoods, some empirical patterns of the helping roles of neighbors, and the psychosocial significance of the neighborhood in metropolitan life. Contributors are mainly urban planning specialists, social scientists, and psychologists. Taylor is Associate Professor, Department of Criminal Justice, Temple University. Index.

UNITED NATIONS, ECONOMIC COMMISSION FOR EUROPE. *Human settlements situation in the ECE region around 1980. Survey prepared by the secretariat under the auspices of the Committee on Housing, Building and Planning*. New York: United Nations, 1986. Pp. iv, 71. \$12.50, paper. ISBN 92-1-116343-9. JEL 87-0629

A description of the changes in human settlements in Economic Commission for Europe (ECE) countries. Reviews the basic conditions underlying settlement development in market-economy countries and in centrally planned economies. Describes the process of development of settlement and of physical planning in individual countries as well as regional subgroups. Compares the development of housing and related infrastructure and services and in the construction and building material industries. No index.

940 REGIONAL ECONOMICS

BEENMILLER, RICHARD M.; AMBACIS, ZOE O. AND FRIEDENBERG, HOWARD L. *Regional multipliers: A user handbook for the Regional Input-Output Modeling System (RIMS II)*. Washington, D.C.: U.S. Department of Commerce, Bureau of Economic Analysis, 1986. Pp. iv, 131. Paper. JEL 87-0630

A handbook of regional output, earnings, and employment multipliers derived from the Regional Input-Output Modeling System (RIMS II). Describes informational requirements of this system and presents case studies to illustrate its uses. Contains a RIMS II reading list and details of regional multipliers. No index.

WALZER, NORMAN AND CHICONE, DAVID L., eds. *Financing economic development in the 1990s: Issues and trends*. New York and London: Greenwood

Press, Praeger, 1986. Pp. xxvii, 233. \$38.95. ISBN 0-275-92128-X. JEL 87-0631

Thirteen papers analyze the role of local governments in the promotion of economic development in the Midwest. Topics include: population trends in the Midwest; trends in business employment; the effect of business climate on employment growth; state practices for attracting high-tech industry and jobs; criteria used for facility-location selection; the role of the state in economic development; cost-effective development finance; the role of small business in economic development; capital markets for public borrowers; the impact of the President's tax proposal on local and state government capital financing; the U.S. trade deficit and international competitiveness; fiscal federalism; and private-sector economic development activities in the Chicago metropolitan area. The contributors are mainly economists. Walzer is Professor of Economics at Western Illinois University. Chicoine is Associate Professor of Agricultural Economics at the University of Illinois, Urbana. Index.

See also: Book Numbers JEL 87-0554, 87-0588

RELATED DISCIPLINES

GOUREVITCH II, PETER. *Politics in hard times. Comparative responses to international economic crises.* Cornell Studies in Political Economy series. Ithaca and London: Cornell University Press, 1986. Pp. 267. \$27.50, cloth, \$12.95, paper. ISBN 0-8014-9436-2, pbk. JEL 87-0632

A comparative analysis of the response of the United States, the United Kingdom, France, Germany, and Sweden to crises in the international economy. Examines the policy responses of these countries as well as the changing pattern of alliances among societal actors in response to the long deflation at the end of the nineteenth century, the Great Depression, and the extreme instability of the 1970s and 1980s. Argues that the crises led to the development and realignment of coalitions among various economic actors and that differences in policy response arose from differences in the institutions that mediated the mobilization and application of power. Traces the changing coalitions over time and reviews alternative explanations of their content. The author is Professor of Political Science at the University of California, San Diego. Index.

HAWLEY, ARLOS H. *Human ecology. A theoretical essay.* Chicago and London: University of Chicago Press, 1986. Pp. viii, 168. \$26.00, cloth, \$9.95, paper. ISBN 0-226-31984-9, pbk. JEL 87-0633

Presents an approach toward a unified theory of human ecology. Discusses environment, popula-

tion, and ecosystem as the basic components of ecological analysis. Explores the concept of ecosystem change and analyzes the process of cumulative change through growth and evolution of the ecosystem and through expansion in time and space. Discusses the limits to cumulative change and the relevance of human ecology for social policy. Hawley is Kenan Professor Emeritus in Sociology at the University of North Carolina, Chapel Hill. Index.

KEATINGE, MICHAEL AND HAINSWORTH, PAUL. *Decentralisation and change in contemporary France.* Aldershot, England, and Brookfield, VT.: Gower, 1986. Pp. 143. \$38.00. ISBN 0-566-05206-7. JEL 87-0634

Analysis of the attempt at the decentralization of power promoted by the French Socialists and presided over by François Mitterrand. Reviews alternative interpretations of the structure of French territorial government. Presents a historical view of France as undergoing increased state centralization and outlines the debate regarding the relationship between the state and its citizens. Examines the reform attempts of previous French governments. Traces the growth of regionalism and micronationalism as a background to the Socialist impulse toward decentralization. Discusses the legislation and implementation of decentralization since 1981 and its relationship with the formulation and exercise of economic policy. Presents a preliminary assessment of the impact of decentralization on power relations. Index. Hainsworth is Lecturer in Politics at the University of Ulster. Bibliography.

KLITGAARD, ROBERT. *Selection processes in developing countries.* Johns Hopkins University Press, 1986. Pp. vi, 191. \$24.95. ISBN 0-8018-3269-1. JEL 87-0635

Reviews the history of selection processes for choosing educational and administrative elites in the People's Republic of China. Examines the nature, efficiency, and impact of different selection policies in developing countries. Outlines approaches to defining the objectives of selection and to measuring and assessing the efficiency of selection. Discusses problems of bias and underrepresentation in group selection and analyzes the nature of incentives created by selection processes. Presents a case study of the characteristics and effects of the academic selection process in Indonesia. Klitgaard is Associate Professor of Public Policy in the John F. Kennedy School of Government, Harvard University. Index.

KLUEGEL, JAMES R. AND SMITH, ELIOT R. *Beliefs about inequality: Americans' views of what is and what ought to be*. Social Institutions and Social Change series. New York: Aldine de Gruyter, 1986. Pp. x, 332. \$37.95, cloth; \$16.95, paper. ISBN 0-202-30326-8. JEL 87-0636

Reports the results of a national survey concerned with beliefs about social and economic inequality, indicating the structure, determinants, and certain political and personal consequences of these beliefs. Surveys were conducted in the summer and fall of 1980 and covered 2,212 Americans over age eighteen. Examines the basic dominant beliefs of Americans, specifically dealing with opportunity, reasons for poverty and wealth, and distributive justice. Discusses popular beliefs and attitudes directly related to public policy on inequality, examining redistributive policies, attitudes toward affirmative action, discrimination, and equal rights. Concludes that most Americans do not believe that all is well with the workings of stratification and that many question the fairness of their personal opportunity and economic status. Kluegel is Chairman of the Department of Sociology at the University of Illinois. Smith is an Associate Professor of Psychological Sciences at Purdue University. Bibliography, index.

LA SALLE, J. P. *The stability and control of discrete processes*. Applied Mathematical Science series, no. 62. New York; Berlin; London and Tokyo: Springer, 1986. Pp. 150. \$22.00, paper. ISBN 0-387-96411-8. JEL 87-0637

Discusses the stability and controllability of a discrete dynamical system. Considers: Liapunov's direct method, linear systems, computational criteria of stable matrices, stability by the linear approximation, the Jordan Canonical Form, higher order equations, companion matrices, algorithms for computing A^n , variation of parameters and undetermined coefficients in nonhomogeneous linear systems, forced oscillations, systems of higher order equations, control of linear systems, stabilization by linear feedback, minimum energy control and minimum time-energy feedback control, observability, observers, state estimation, and stabilization by dynamic feedback. Sections contain exercises, theorems, propositions, proofs, and examples. Index.

NEVITTE, NEIL AND KENNEDY, CHARLES H., eds. *Ethnic preference and public policy in developing states*. Boulder, Colo.: Rienner, 1986. Pp. ix, 203. \$25.00. ISBN 0-931477-89-1. JEL 87-0638

Seven papers presented at a panel organized for the annual meeting of the American Political Science Association in Washington, D.C., in September

1984. Papers examine how policies of ethnic preference work to affect communal conflict in developing states and consider the origins, implementation, and consequences of such policies in Africa, Pakistan, Malaysia, Sri Lanka, and Guyana. Two recurrent themes, according to the editors, are the significance of the bureaucracy and of post-secondary education as the institutional sites of preferential policy battles and the relationship between the colonial experience and postcolonial policies of ethnic preference. Contributors are Donald Rothchild, Gordon P. Means, R. S. Milne, Robert Oberst, Ralph R. Premdas, and the editors. Nevitte is Associate Professor of Political Science, University of Calgary. Kennedy is Assistant Professor of Politics, Wake Forest University. Index.

SCOTT, W. RICHARD. *Organizations: Rational, natural and open systems*. Second edition. Englewood Cliffs, N.J.: Prentice-Hall, [1981] 1987. Pp. xvii, 377. ISBN 0-13-641820-1. JEL 87-0639

Surveys and evaluates the rapidly developing sociological approach to organizations. The first part is an introduction to organizations and examines the practical and theoretical benefits derived from a better understanding of the subject. Part 2 examines organizations as rational, natural, and open systems in detail and ends with an attempt at integrating the perspectives. Part 3 deals with the ways in which organizations relate to their environments and the determinants of organizational structure. Raises the question of why organizations exist and how they are created. Also describes sources of structural complexity. The last part examines organizations and their relationships with society, emphasizing problems associated with their operation and growth. Scott is Professor of Sociology at Stanford University. Name and subject indexes.

TANNER, DANIEL AND TANNER, LAUREL. *Supervision in Education: Problems and practices*. New York: Macmillan, London: Collier Macmillan, 1987. Pp. xvii, 565. \$24.00. ISBN 0-02-418950-2. JEL 87-0640

Textbook focusing on educational supervision as a problem-solving process. The first part describes the emerging field of educational supervision, emphasizing its evolution and professionalization trend. Part 2 is concerned with the framework and functions of educational supervision, focusing on the administrative organization of supervision and supervisory roles. The next part examines the theory and practice of educational supervision, particularly the ecology of the school, the climate for supervision, models of supervision, supervision and teacher effectiveness, and common classroom problems. Part 4 examines the forces and sources

for educational improvement, describing the emergence of reform movements. The next part deals with curriculum design and development, discussing what the supervisor should know about the curriculum. Provides specific illustrations. The last part targets faculty development and school improvement. Each chapter contains a summary and problems for study and discussion. Daniel Tanner is at Rutgers University, and Laurel Tanner is at Temple University. Name and subject indexes.

WRIGHT, GERALD C., JR.; RIESELBACH, LEROY N. AND DODD, LAWRENCE C., eds. *Congress and policy change*. New York: Agathon Press, 1986. Pp. xii, 292. \$32.00, cloth, \$15.00, paper. ISBN 0-87586-077-X, plk. JEL 87-0641

Ten essays about congressional policy making, particularly processes by which congressional policy changes or does not, indicating how Congress has been both a policy initiator and a resister. Divided into five parts: a theory of congressional change, the electoral sources of policy changes in Congress, the learning process in policy making and adjustment, leadership, rules, and the policy process, and a conclusion. Authors are mainly political scientists. Wright and Rieselbach are in the Political Science Department as Associate Professor and Professor, respectively, at Indiana University. Dodd is Professor of Political Science at the University of Colorado. Author index.

NEW JOURNALS

Annales d'Économie et de Statistique

Quarterly publication of original theoretical research in economics, econometrics, and statistics; this journal is the successor to *Annales d'INSEE* and is edited by l'INSEE. The January-March 1986 issue (no. 1) is devoted to industrial economics. It contains articles on the existence of a Cournot equilibrium in a partial equilibrium framework; formalization of the notion of barriers to mobility and competition in a duopoly within the context of game theory; rationing, rational expectations, and Stackelberg equilibria; the determination of gravel extraction and agricultural output paths in a competitive market system; a normative theory of state-firms contracts; the logic of the system of bonuses and penalties in auto insurance; price competition and product variety; and the application of the principal-agent approach to the relationships between producers and retailers. In French with English summaries. Annual subscription, in France: Fr 320.00, paper, Fr 74.00 microfiche; other countries: \$55.00, paper, \$15.00, microfiche. For information, write to: Annales d'Économie et de Statistique, CNCP-INSEE, B.P. no. 2718, 80027 Amiens Cedex, France.

Economia delle Scelte Pubbliche (Journal of Public Finance and Public Choice)

Published three times a year. The January 1985 issue (Vol. 3, no. 1) contains five articles, three in English and two in Italian. Topics include: an approach to deciding how much should be given to the poor, opportunity cost, sunk cost, and entrepreneurial choice, U.S. economic policy and the level of the dollar, the public financing of performing arts, and the political economy of pressure groups. Articles in Italian have abstracts in English and vice versa. Also contains book reviews, current news, and citations of recent economic publications. Subscription rates, \$12.00, individuals, \$15.00, institutions, add \$4.00 for overseas subscribers. Single issue: \$6.00. For information, write to: Francesco Giannini and Figli, S.p.A., via Cisterna dell'Olio 6-B, 80134 Naples, Italy.

Finance

Published in June and December by the French Association of Finance for the purpose of presenting research pertaining to national and international financial and monetary markets as well as financial aspects of enterprises and financial intermediaries. Articles are either in French or English with summaries in both languages. The June 1986 issue (Vol. 7, no. 1) consists of five articles and a book review section. Two of the articles, in English, examine the impact of equity in bank portfolios and characteristics of financial ratios in the French corporate sector. Topics of the other articles are: testing the arbitrage pricing theory with data from the Paris Stock Exchange; pricing of sugar into commodity Exchange on the Paris Stock Exchange; Fr 330 in France; Presses Universitaires des Revues, 12, 1 (43-26-22), CCP 1.

International Economic Journal

Published quarterly in English by the Korea International Economic Association. The Spring 1987 issue (Vol. 1, no. 1) contains eight articles, a political-economy-theoretic analysis of voluntary export restrictions, *quid pro quo* direct foreign investment, and voluntary import expansions; the protective effects of discriminatory quantitative restrictions; a case study of South Korea, focusing on concentration, price and inventory dynamics of primary commodities, aggregation and the endogeneity problem, market structure, competition, and welfare change due to technological innovations, intraindustry trade in the Pacific Basin; and an empirical analysis of the developing

countries' case regarding real exchange rate variability. Annual subscription: individuals, nonmembers \$30.00; members \$15.00; institutions, \$40.00. Write to: Professor Wontack Hung, Department of International Economics, College of Social Sciences, Seoul University, Seoul 151, South Korea.

International Trade Journal

Quarterly publication of the Institute of International Trade, Laredo State University, provides a forum for the scholarly exchange of research findings and significant conceptual or theoretical contributions to the field. The Fall 1986 issue (Vol. 1, no. 1) contains five articles on: exchange rates and foreign trade; bilateral trade flows, international joint ventures and the U.S. auto industry; determinants and consequences of across-the-board trade restrictions in the U.S. economy; and the choice of appropriate technology in a general equilibrium model. Also includes book reviews. Annual subscriptions: \$25.00, individuals, \$35.00, institutions; \$10.00, single issue. (Add \$6.00 outside North America.) Write to: *International Trade Journal*, Laredo State University, Laredo, Texas 78040. (ISSN 0885-0908)

Journal of Applied Business Research

Published three times a year every fall, winter, and spring. The Fall 1986 issue (Vol. 4) contains twelve articles covering: accounting (dollar unit sampling, the rule of 78's, and implication of the relationship of budgeting and accounting for public policy); communications (the challenge of being politically effective); finance (prospective payments and medical costs, effect of the Tax Reform Act of 1986 on U.S. manufacturing corporations, the separability of real and financial decisions of a firm, and corporate motives in bond refunding and calling); economics (export behavior of domestic and transnational firms in Brazilian manufacturing and labor self-management's consistency with Rawls' ethical criteria); law (new dimensions in liability related to corporate insider trading); and marketing (interest rate variations for automobile loans in large cities). Annual subscription: \$20.00 for individuals; \$60.00 for institutions; add \$10.00 outside the United States and Canada. Write to: Professor Ronald C. Clute, University of Wyoming, College of Commerce and Industry, 3810 Reynolds, Laramie, Wyoming 82070.

Journal of Voluntary Action Research: Studies of Volunteering, Citizen Participation, Philanthropy, and Nonprofit Organizations

Quarterly publication of the Association of Voluntary Action Scholars reports research on all as-

pects of voluntary action. The January-March 1986 issue (Vol. 15, no. 1) includes six articles as well as research notes and book reviews. Topics of articles include: the use of conflict management behaviors in voluntary organizations, understanding organizational commitment for volunteers, inter-organizational conflict, Mexican voluntary Associations, black participation in voluntary organizations, and leadership characteristics of 4-H leaders. For information write to: Association of Voluntary Action Scholars, S-211 Henderson Human Development Building, Pennsylvania State University, University Park, Pa. 16802. (ISSN 0094-0607)

Lecturas de Economía

Published three times a year in Spanish by the Economics Department of the University of Antioquia, Medellín, Colombia. Purpose is to present papers on different topics in economics and general articles on the social sciences. The January-April 1986 issue (No. 19) contains articles on: Karl Marx, the financial problems of electricity shortages in Colombia; the transition of socialism in small open economies, the case of Nicaragua, urban modeling of Medellín, regionalism, the Keynesian-monetarist debate; the peasant economy; and recent developments in applied econometrics. Also contains a panel discussion on the general outlook and policy of the Colombian economy, as well as several book reviews. Includes English summaries. Annual subscription: Col\$1,500 for individuals and Col\$1,200 for students, in Colombia; \$30.00 in the United States. Write to: *Lecturas de Economía*, Facultad de Ciencias Económicas, Universidad De Antioquia, Apartado aéreo 1226, Medellín, Colombia. (ISSN 0120-0596)

Literatura Económica

Publication of the Instituto de Planejamento Econômico e Social (IPEA); entirely in Portuguese. The annual subscription includes three regular issues published in February, June, and October, which present papers on different topics in economics as well as information on current research in Brazil, and six supplements that include abstracts of selected Brazilian and foreign economic journals. The February 1986 issue (Vol. 8, no. 1) includes translations of two articles written by James Tobin. Shorter papers discuss the contributions of Richard Stone to economics and of Ignácio M. Rangel to Brazilian economic thought. No English summaries. Annual subscription: Cz\$50.00. Write to: IPEA—Serviço Editorial, Av. Pres. Antônio Carlos, 51/ 13, andar, Caixa Postal 2672, 20 020, Rio de Janeiro, Brazil.

Maandschrift Economie: Tijdschrift voor Algemeen-en Sociaal-economische Vraagstukken

Issued six times a year, this Dutch-language journal has been published for over 50 years. Volume 50, no. 2 (1987) contains five articles, an editorial comment, and book reviews. Articles refer to: government popularity functions (L. P. M. Peepers and T. B. M. Steenkamp), the Stallex system (L. Berlage and J. Schockaert), earnings differentials among men and women in the Netherlands (J. J. Schippers and J. J. Siegers), trade modeling (S. Brakman), and discouraged workers and additional workers effects (W. J. M. L. Wong Meeuwling). No English summaries. Annual subscriptions: Dfl 90.00, single issues, Dfl 19.50, students, 20 percent discount. Write to: Maandschrift Economie, Libressa bv, postbus 23, 7400 GA, Deventer, the Netherlands. (ISSN 0013-0486)

North Central Journal of Agricultural Economics

Semi-annual publication sponsored by the North Central Committee (NCA-12), which is comprised of heads of departments of agricultural economics of the land grant universities in thirteen states. Its purpose is to communicate information about empirical work in agricultural economics to professionals engaged in agricultural extension, teaching, and research. Emphasis is on the north central region of the United States. The July 1986 issue (Vol. 8, no. 2) contains twelve articles. Topics include: projecting adoption rates of new biotechnology products, the market for agricultural economists, cash versus accrual measures of farm income, basic economics of an export bonus scheme, the interyear effect of routine marketing on farm income and utility, the effect of farm financial stress on off-farm work behavior, a structural analysis of farm machinery demand in the United States, management strategies for controlling the soybean cyst nematode, price impacts associated with the closing of hog slaughtering plants, and soil management decisions. Annual subscription: \$10.00 for each volume, add \$4.00 per volume outside the U.S., make checks payable to: Purdue

University. Write to: Dr. Lee F. Schrader, Editor, NCJAE, Department of Agricultural Economics, Purdue University, West Lafayette, Indiana 47907.

Quaderni Sardi di Economia

Published four times a year by the Bank of Sardinia. The first issue of 1986 (Vol. 16, no. 1) contains four articles. Topics are: reform of the 1936 Italian banking law versus adjustment of banking legislation, the theory of effective protection and its empirical relevance for the Italian industrial system; the question of whether the designation of Sardinia as a Free Port Zone will result in reduced regional unemployment and economic growth, and the development of a regional policy of agricultural structures. All articles are in Italian, with English summaries. Also includes several book reviews. For information, write to: Bank of Sardinia, viale Umberto 36, 07100 Sassari, Sardinia. (ISSN 0391-8394)

Revista Latinoamericana de Historia Económica y Social. Historia y Economía en América Latina

Semiannual publication (in Spanish) of the Centro Latinoamericano de Historia Económica y Social, Lima, Peru. Contains papers analyzing Latin American economic and social history. Issue no. 5 (1st semester, 1985) contains four articles on rural labor markets in Peru, the state of the art of economic thought in Latin America, the evolution of scientific research and the living standards at the turn of the century. Issue no. 6 (2nd semester, 1985) contains research on petty commodity economic history. No English summaries. \$30.00 (institutional subscription, outside the United States and Europe). Write to: Centro Latinoamericano de Historia Económica y Social, Apartado Postal 31058, Administración Postal Ingeniería, Lima 31, Peru.

Editor's Note

The following persons assisted the editors in annotating these books: Mrs. Joan Daley, Mrs. Aurelia Hoxley, and Mrs. Vilhja Kapuria-Forman and Professor Reuben E. Slesinger (both of the University of Pittsburgh).

The articles appearing in the Subject Index were classified under the direction of Professor Asatoshi Maeshiro, Editorial Consultant, assisted by Mr. A'amer Farooqi, Mr. Nayyar Hussain, Mr. Edgar L. Zamalloa, and Mrs. Larena M. Zamalloa (all of the University of Pittsburgh).

Contents of Current Periodicals

Abstracts of articles marked thus • appear in this issue. See the *Index of Authors of Articles in the Subject Index* for page numbers, in *italics*.

Accounting Review, Vol. 62, No. 1, January 1987

- Abdolmohammadi, M. and Wright, A. An Examination of the Effects of Experience and Task Complexity on Audit Judgments.
- Beaver, W. H. The Properties of Sequential Regressions with Multiple Explanatory Variables.
- Berry, L. E.; Harwood, G. B. and Katz, J. L. Performance of Auditing Procedures by Governmental Auditors: Some Preliminary Evidence.
- Burgstahler, D. Inference from Empirical Research.
- Collins, F.; Munter, P. and Finn, D. W. The Budgeting Games People Play.
- Conroy, R. M. and Hughes, J. S. Delegated Information Gathering Decisions.
- Francis, J. R. and Simon, D. T. A Test of Audit Pricing in the Small-Client Segment of the U.S. Audit Market.
- Hughes, J. S. and Ricks, W. E. Associations between Forecast Errors and Excess Returns Near to Earnings Announcements.
- Ingram, R. W. and Petersen, R. J. An Evaluation of AICPA Tests for Predicting the Performance of Accounting Majors.
- Jacobs, F. H. and Marshall, R. M. A Reciprocal Service Cost Approximation.
- Mear, R. and Firth, M. Cue Usage and Self-insight of Financial Analysts.
- Nichols, D. R. A Model of Auditors' Preliminary Evaluations of Internal Control from Audit Data.
- Shriver, K. A. An Empirical Examination of the Potential Measurement Error in Current Cost Data.
- Steinbart, P. J. The Construction of a Rule-Based Expert System as a Method for Studying Materiality Judgments.
- Swenson, C. W. An Analysis of ACRS during Inflationary Periods.

L'Actualité Économique, Vol. 62, No. 1, March 1986

- Bernard, J.-T.; Lessard, F. and Thivierge, S. La demande d'énergie du secteur commercial québécois. (The Energy Demand of the Commercial Sector in Quebec. With English summary.)
- Dagum, C.; Grenier, G. and Bédard, M.

Répartition du revenu selon le sexe dans quatre agglomérations urbaines du Canada: Exemple d'application de données des déclarations de revenus des particuliers. (An Analysis of Income Distribution by Sex in Four Canadian Metropolitan Areas, Using Personal Income Tax Records. With English summary.)

Garcia, R. La théorie économique de l'information: exposé synthétique de la littérature. (The Economic Theory of Information: A Synthesis of the Literature. With English summary.)

Guay, R. and Raynauld, J. L'hypothèse du revenu permanent avec attentes rationnelles: une évaluation économétrique canadienne. (The Rational Expectations-Permanent Income Hypothesis: A Canadian Econometric Evaluation. With English summary.)

Phaneuf, L. Approche d'équilibre général stochastique du cycle économique: problèmes et réalisations. (The Stochastic General Equilibrium Approach to Business Cycles: Results and Problems. With English summary.)

Rodrique, A. La contribution de l'amélioration du bien-être au processus de croissance dans les pays en développement. (The Contribution of Welfare to Economic Growth. With English summary.)

African Economic History, Vol. 14, 1985

- Becker, G. Notes sur les conditions écologiques en Sénégal aux 17^e et 18^e siècles.
- Booth, A. R. Homestead, State, and Migrant Labor in Colonial Swaziland.
- Christelow, A. Slavery in Kano, 1913-1914: Evidence from the Judicial Records.
- Clarence-Smith, C. Business Empires in Angola under Salazar, 1930-1961.
- Isaacman, A. Chiefs, Rural Differentiation and Peasant Protest: The Mozambican Forced Cotton Regime 1938-1961.
- Oroge, E. A. Iwofa: An Historical Survey of the Yoruba Institution of Indenture.
- Wright, M. Iron and Regional History: Report on a Research Project in Southwestern Tanzania.

Agricultural Economics Research, Vol. 38, No. 4, Fall 1986

- Shoemaker, R. and Somwaru, A. Total Factor Productivity and Sources of Growth in the

Dairy Sector.

Smallwood, D. M. and Blaylock, J. R. Forecasting Performance of Models Using the Box-Cox Transformation.

Tweeten, L. A Note on Explaining Farmland Price Changes in the Seventies and Eighties: Research Review.

American Historical Review, Vol. 91, No. 5, December 1986

Briggs, J. W. Fertility and Cultural Change among Families in Italy and America.

American Journal of Agricultural Economics, Vol. 68, No. 3, August 1986

• **Anderson, L. G. and Lee, D. R.** Optimal Governing Instrument, Operation Level, and Enforcement in Natural Resource Regulation. The Case of the Fishery.

• **Beilock, R. P.; Polopolus, L. C. and Correal, M.** Ranking of Agricultural Economics Department by Citations.

• **Berck, P. and Levy, A.** The Costs of Equal Land Distribution: The Case of the Israeli Moshavin.

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• **Braverman, A. and Stiglitz, J. E.** Cost-Sharing Arrangements under Sharecropping. Moral Hazard, Incentive Flexibility, and Risk.

• **Buccola, S. T. and McCarl, B. A.** Small-Sample Evaluation of Mean-Variance Production Function Estimators.

• **Byerlee, D. and Hesse de Pulanco, E.** Farmers' Stepwise Adoption of Technological Packages: Evidence from the Mexican Altiplano.

• **Capalbo, S. M. and Denny, M. G. S.** Testing Long-run Productivity Models for the Canadian and U.S. Agricultural Sectors.

• **Collender, R. N. and Chalfont, J. A.** An Alternative Approach to Decisions under Uncertainty Using the Empirical Moment-Generating Function.

• **Garrod, P. V. and Roberts, R. K.** Prices as Proxies for Prices.

• **Karp, L.; Sadeh, A. and Griffin, W. L.** Cycles in Agricultural Production: The Case of Aquaculture.

• **Kealy, M. J. and Bishop, R. C.** Theoretical and Empirical Specifications Issues in Travel Cost Demand Studies.

Kiker, C. and Lynne, G. An Economic Model of Soil Conservation: Comment.

• **Kinnucan, H. and Forker, O. D.** Seasonality in the Consumer Response to Milk Advertising

with Implications for Milk Promotion Policy.

• **LaFrance, J. T.** The Structure of Constant Elasticity Demand Models.

McConnell, K. E. An Economic Model of Soil Conservation: Reply.

• **Naik, G. and Leuthold, R. M.** A Note on Qualitative Forecast Evaluation.

• **Paarlberg, P. L. and Abbott, P. C.** Oligopolistic Behavior by Public Agencies in International Trade: The World Wheat Market.

• **Pope, R. D. and Hallam, A.** A Confusion of Agricultural Economists? A Professional Interest Survey and Essay.

• **Shortle, J. S. and Dunn, J. W.** The Relative Efficiency of Agricultural Source Water Pollution Control Policies.

• **Skees, J. R. and Reed, M. R.** Rate Making for Farm-Level Crop Insurance: Implications for Adverse Selection.

• **Smith, E. G.; Knutson, R. D. and Richardson, J. W.** Input and Marketing Economics. Impact on Structural Change in Cotton Farming on the Texas High Plains.

• **Trapp, J. N.** Investment and Disinvestment Principles with Nonconstant Prices and Varying Firm Size Applied to Beef-Breeding Herds.

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- Fransman, M.** International Competitiveness, Technical Change and the State: The Machine Tool Industry in Taiwan and Japan.
- Greeley, M.** Rural Energy Technology Assessment: A Sri Lankan Case Study.
- Haggis, J., et al.** By the Teeth: A Critical Examination of James Scott's *The Moral Economy of the Peasant*.
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- Jennings, A.** Measures to Assist the Least Developed Countries: The Case of Malawi.
- Teubal, M.; Halevi, N. and Tsiddon, D.** Learning and the Rise of Israel's Exports of Sophisticated Products.
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011 General economics		
012 Teaching of economics		
020 General Economic Theory	951	1103
021 General equilibrium and disequilibrium theory		
022 Microeconomic theory		
023 Macroeconomic theory		
024 Welfare theory		
025 Social choice		
026 Economics of uncertainty and information; game theory and bargaining theory		
027 Economics of centrally planned economies		
030 History of Economic Thought; Methodology	958	1122
031 History of economic thought		
036 Economic methodology		
040 Economic History	971	1125
041 Economic history: general		
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043 Economic history: ancient and medieval (until 1453)		
044 Economic history: Europe		
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048 Economic history: Oceania		
050 Economic Systems	974	1127
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053 Comparative economic systems		
 100 Economic Growth; Development; Planning; Fluctuations	 976	 1127
110 Economic Growth; Development; and Planning Theory and Policy	976	1127
111 Economic growth theory and models		
112 Economic development models and theories		
113 Economic planning theory and policy		
114 Economics of war, defense, and disarmament		
120 Country Studies	978	1129
121 Economic studies of developing countries		
122 Economic studies of developed countries		
123 Comparative studies of developing, developed, and/or centrally planned economies		
124 Economic studies of centrally planned economies		
130 Economic Fluctuations; Forecasting; Stabilization; and Inflation	130	1130
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132 Forecasting; econometric models		
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214	Computer programs		
215	Experimental economic methods		
220	Economic and Social Statistical Data and Analysis	994	1142
221	National income accounting		
222	Input-output		
223	Financial accounts		
224	National wealth and balance sheets		
225	Social indicators: data and analysis		
226	Productivity and growth: Theory and data		
227	Prices		
228	Regional statistics		
229	Microdata and database analysis		
300	Domestic Monetary and Fiscal Theory and Institutions	997	1143
310	Domestic Monetary and Financial Theory and Institutions	997	1143
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312	Commercial banking		
313	Capital markets		
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315	Credit to business, consumer, etc. (including mortgages)		
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323	National taxation, revenue, and subsidies		
324	State and local government finance		
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411	International trade theory		
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423	Economic integration		
430	International Finance	1023	1171
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500	Administration; Business Finance; Marketing; Accounting	1030	1175
510	Administration	1030	1175
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Editor's Note

The articles appearing in the Subject Index were classified under the direction of Professor Asatoshi Maeshiro, Editorial Consultant.

Subject Index of Articles in Current Periodicals

Abstracts of articles marked thus • appear in this issue. See *Index of Authors of Articles in the Subject Index* for page numbers, in *italics*. NOTE: Non-English articles having no English explanation are omitted, but do appear in *Contents of Current Periodicals*.

000 General Economics; Theory; History; Systems

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Selected Abstracts

Editor's Note

These abstracts are prepared by the author of each article. Each journal editor, where we have an abstracting agreement, is responsible for instructing the author according to our style sheet. These editors are responsible, additionally, for sending these abstracts to the *Journal of Economic Literature*. Only a minimal amount of copy editing is done on these abstracts; thus the reader should turn to the author of the abstract and not this journal if an error of fact or phrasing arises.

Note: The limit of 100 words for abstracts is being strictly enforced; i.e., longer abstracts are not printed.

000 General Economics; Theory; History; Systems

010 General Economics

011 General Economics

Beilock, Richard P.; Polopolus, Leo C. and Correal, Mario—Ranking of Agricultural Economics Departments by Citations

Ranking of agricultural economics departments based upon the number of articles or article pages does not take into account the impact or usefulness of these journal articles or other works to the profession. In this paper an alternative ranking scheme is employed, which utilizes citations from a broad array of publications of a department's faculty. Rankings are developed for agricultural economics units at 1862 land grant universities, 1890 land grant universities, independent U.S. universities, and Canadian universities, as well as an overall composite ranking and comparisons with economics departments. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 595-604. University of Florida.

Bordo, Michael D. and Landau, Daniel—Advocacy and Neo Classical Economics

This paper explores the contradiction between the neoclassical assumption that individuals are rational maximizers and the economist's role as a policy advocate. The issue is studied in the writings of George Stigler and Milton Friedman. Consideration of information costs allows the logical contradiction to be reduced to an empirical question. *Economic J.*,

Apr.-June 1986, 12(2), pp. 94-102. University of South Carolina; University of Connecticut.

Giersch, Herbert—Economics as a Public Good

These are recollections of a West German economist who has become increasingly convinced over the years that economics can be conceived and supplied as a public good. For individual expectations and for group behavior to become more rational, the public needs orientation: relevant information about the role of flexible relative prices in open markets for goods, factors, and currencies. Interest groups, including governments, tend to oppose open advice for shortsighted reasons. In the long run, applied economics can well prevail in the market of ideas. *Banca Naz. Lavoro Quart. Rev.*, Sept. 1986, (158), pp. 251-73. University of Kiel, Institut für Weltwirtschaft.

Grubel, Herbert G. and Boland, Lawrence A.—On the Efficient Use of Mathematics in Economics: Some Theory, Facts and Results of an Opinion Survey

Mathematics is considered to be an input into the production of human and knowledge capital in economics. The competitive and the interest group models are analyzed as to their predictions about the efficient use of this input. Many stylized facts are found to be consistent with the interest group model and the implication of an excess use of mathematics. Mathematics in journal articles is shown to have grown significantly during the postwar years. In a survey

250 economists express the view that there is too much mathematics in professional journals. Only a minority of respondents rejects the view that interest group behavior is taking place. *Kyklos*, 1986, 39(3), pp. 419-42. Simon Fraser University.

Hacken, Richard D.—Scandinavian Social Economics since 1930: A Bibliographic Note

As a sequel to an article on Scandinavian social economics (1850-1930) in the October, 1983 issue of the same journal, this bibliographic paper lists a selection of monographs published since 1930 on the subject. Achievements and failings of social democracy in Sweden, Norway, and Denmark are accentuated, with less attention to titles of theoretical interest. Areas represented are: laboring classes, industry, trade union and labor relations, agriculture, the cooperative movement, socialism, and general and miscellaneous treatises on social economics. *Rev. Soc. Econ.*, Oct. 1986, 44(2), pp. 159-77. Brigham Young University.

Hogarth, Robin M. and Reder, Melvin W.—Perspectives from Economics and Psychology: Editors' Comments

The paradigm of rational choice provides economics with a unity that is lacking in psychology. In the study of choice behavior, the two disciplines differ concerning: (1) scope of phenomena: unlike economists, psychologists do not restrict research primarily to the market-level behavior of appropriately motivated experts; (2) object of study: whereas psychologists deem process important, economists concentrate on outcomes; and (3) data considered relevant: aggregate price-quantity relations are the focus of economic enquiry. Psychologists, on the other hand, are interested in different types of individual process data. Despite these differences, points of contact are indicated where each discipline could benefit from considering the alternative perspective. *J. Bus.*, Pt. 2, Oct. 1986, 59(4), pp. S185-207. University of Chicago.

Pope, Rulon D. and Hallam, Arne—A Confusion of Agricultural Economists?—A Professional Interest Survey and Essay

A random survey of members of the American Agricultural Economics Association is used to

examine basic philosophical issues regarding the discipline of agricultural economics. In comparison to other studies of economists, much more diversity of response is found among agricultural economists. The data suggest important correlates between the pattern of responses and socioeconomic variables. Some variables that affect responses are agricultural interests, age, school of graduation, area of specialization, and employment. Self-interest, information differences, and empathy are among the possible explanations of the patterns of responses. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 572-94. Brigham Young University; Iowa State University.

012 Teaching of Economics

Schout, Richard P. M. and Slangen, Louis H. G.—The Individual Study System in Teaching General and Agricultural Economics: Methodology and Results

General economics and, more particularly, agricultural economics can be fruitfully applied to the agricultural sector. Students of agricultural economics can benefit from knowledge of the general economic theory, not only because of the links between the theories, but also because of the growing interrelatedness of agriculture with the rest of the economy. Combination of these courses has the advantage of clearly showing these relations. Experience at Wageningen Agricultural University proved that the Individual Study System is an appropriate form for these courses. *Europ. Rev. Agr. Econ.*, 1986, 13(1), pp. 107-22. Agricultural University, Wageningen, the Netherlands.

020 GENERAL ECONOMIC THEORY

Debreu, Gerard—Theoretic Models: Mathematical Form and Economic Content

Changes in the mathematical form of theoretic models of an economy during the past four decades and the growth of mathematical economics in that period are considered in relation to each other and to the development of the Econometric Society. The fit of the mathematical form to the economic content of theoretic models, their separation in a completed axiomatic theory, and their interplay in its elaboration, are examined. Consequences of the axiomatization of economic theory are analyzed.

Econometrica, Nov. 1986, 54(6), pp. 1259-70. University of California, Berkeley.

Lucas, Robert E., Jr.—Adaptive Behavior and Economic Theory

This essay uses a series of examples to illustrate the uses of rationality and adaptation in economic theory. It is argued that these hypotheses are complementary, and that stability theories based on adaptive behavior may help to narrow the class of empirically interesting equilibria in certain economic models. An experiment is proposed to test this idea. *J. Bus.*, Pt. 2, Oct. 1986, 59(4), pp. S401-26. University of Chicago.

021 General Equilibrium and Disequilibrium Theory

Aumann, Robert J. and Drèze, Jacques H.—Values of Markets with Satiation or Fixed Prices

In markets with satiation, competitive equilibria may fail to exist because the satiation points of some traders may be in the interiors of their budget sets. Thus some traders will use less than the maximum budget, creating an excess that may be divided among all traders as dividends. The authors prove that, when there are many individually insignificant agents, every Shapley value allocation is generated by a system of dividends and prices in which all dividends are nonnegative and monotonically depend only on the net trade sets of the agents, not their utilities. The same result holds for markets with fixed prices. *Econometrica*, Nov. 1986, 54(6), pp. 1271-1318. Hebrew University; CORE, Louvain, Belgium.

Costrell, Robert M.—Equilibrium and Optimality in a Mean-Variance Model

This article reexamines an old debate over the optimality of market allocations in a symmetric mean-variance world, with production nonconvexities, imperfectly correlated outputs, and free entry. The author shows that Walrasian equilibrium does not exist; that non-Walrasian equilibrium under price-taking behavior allocates resources optimally between the risky and risk-free sectors, but spreads resources in the risky sector over an insufficient number of activities; and that non-Walrasian equilibrium under

consistent conjectures allocates insufficient resources to the risky sector, and spreads them over an excessive number of activities. These results have analogues in the theory of product differentiation. *Rand J. Econ.*, Spring 1986, 17(1), pp. 122-32. University of Massachusetts.

Duffie, Darrell—Stochastic Equilibria: Existence, Spanning Number, and the 'No Expected Financial Gain from Trade' Hypothesis

Stochastic equilibria under uncertainty with continuous-time security trading and consumption are demonstrated in a general setting. Given a fixed economy and equilibrium allocation, for each set of probability assessments there exist equilibrium security prices with no expected financial gains from trade under the given probability assessments. The spanning number of the economy is defined as the fewest number of security markets required to sustain a dynamically complete markets equilibrium, and is characterized one plus the martingale multiplicity of the information structure. Examples are given in which the spanning number is finite even though the number of potential states of the world is infinite. *Econometrica*, Sept. 1986, 54(5), pp. 1161-83. Stanford University.

Gagey, Frédéric; Laroque, Guy and Lollivier, Stefan—Monetary and Fiscal Policies in a General Equilibrium Model

In the short run, if price expectations are inelastic, the government has full control of the nominal interest rate. While the model is purely competitive, the conclusions are similar to those of the standard IS-LM analysis. In the long run, it is argued that the proper measure of the government deficit is not the usual one. The interests lost by the moneyholders because of the transactions constraint must be included as an additional government income, the seigniorage tax. *J. Econ. Theory*, Aug. 1986, 39(2), pp. 329-57. Institut National de la Statistique et des Etudes Economiques, Paris.

Mas-Colell, Andreu—The Price Equilibrium Existence Problem in Topological Vector Lattices

A price-equilibrium existence theorem is proved for exchange economies whose con-

sumption sets are the positive orthant of arbitrary topological vector lattices. The motivation comes from economic applications showing the need to bring within the scope of equilibrium theory commodity spaces whose positive orthant has empty interior, a typical situation in infinite dimensional linear spaces. *Econometrica*, Sept. 1986, 54(5), pp. 1039-53. Harvard University.

Nguyen, Trien T. and Whalley, John—Equilibrium under Price Controls with Endogenous Transactions Costs

In this paper the authors present an equilibrium model for an exchange economy with fixed prices and endogenously determined search or transactions costs. Given the fixed prices, endogenously determined equilibrium buying and selling prices (which include transactions costs) result. These costs occur on either the demand or supply side of each market, but not both. An eventual application of this approach to an evaluation of welfare costs of either economy-wide wage and price controls, or sector-specific price controls such as energy is seen. In the final section, some simple numerical examples that illustrate the approach are presented. *J. Econ. Theory*, Aug. 1986, 39(2), pp. 290-300. University of Waterloo; University of Western Ontario, London, Ontario.

022 Microeconomic Theory

Abel, Andrew B.—Capital Accumulation and Uncertain Lifetimes with Adverse Selection

Adverse selection in the private annuity market causes the rate of return on private annuities to be less than the actuarially fair rate based on population average mortality. However, compulsory social security is immune to adverse selection and can offer the actuarially fair rate of return based on population average mortality. Because social security offers a higher rate of return than private annuities, consumers cannot offset social security by transacting in the private annuity market. Introducing social security reduces the steady state rate of return on annuities and raises the steady state aggregate bequests and consumption of young consumers. *Econometrica*, Sept. 1986, 54(5), pp. 1079-87. University of Pennsylvania.

Admati, Anat R. and Pfleiderer, Paul—A Monopolistic Market for Information

The authors analyze a model where traders buy information from a monopolistic seller, which is subsequently used in a speculative market. In order to overcome the dilution in the value of information due to its leakage through informative prices, the seller of information may prefer to sell noisier versions of the information he actually has. Moreover, to obtain higher profits, it is desirable for the seller to sell different signals to different traders, so that the added noise realizations do not affect equilibrium prices. One way of doing so, which does not require discrimination, is to sell identically distributed personalized signals to each of a large number of traders. *J. Econ. Theory*, Aug. 1986, 39(2), pp. 400-438. Stanford University.

Artus, Patric and Migus, Bernard—Dynamique de l'investissement et de l'emploi avec coûts d'ajustement sur le capital et le travail. (Investment and Employment Dynamics with Adjustment Costs on Capital and Labour.)

This article presents the foundations and the estimation of two models describing how firms determine the optimal expected paths of employment and of the capital stock when they face adjustment costs on both production factors. In the first model, firms are assumed to be always constrained on their sales; in the second one never to be rationed on the goods market. *Ann. Econ. Statist.*, Apr./June 1986, (2), pp. 75-99 (French). Bank of France; ENSAE, Malakoff, France.

Arvan, Lanny—Sunk Capacity Costs, Long-run Fixed Costs, and Entry Deterrence under Complete and Incomplete Information

This article considers a three-stage, extensive-form game where capacity, once installed, is sunk but where fixed costs are not sunk. The author shows that there may be multiple perfect equilibria of the complete information game. When the entrant is completely informed about the incumbent's cost, the entrant may use the incumbent's capacity choice as a signal of the incumbent's cost. An example is presented where the incumbent prefers a noninformative

capacity signal, since this has the effect of reducing the scale of entry. A second example is presented where the entrant is incompletely informed because the incumbent makes a choice over production technologies that is unobservable to the entrant. *Rand J. Econ.*, Spring 1986, 17(1), pp. 105-21. University of Illinois.

Beher, Victor A.—La inflexibilidad descendente de los precios y la teoría de la empresa (Price Inflexibility and the Theory of the Firm)

Downward inflexibility of nominal prices is an established fact of contemporary economic reality; it is responsible for some important phenomena in the behavior of market economies. In this paper reasons for the existence of such inflexibility are analyzed. It is found out that such behavior takes place in those markets where suppliers are pricesetters and where, besides, some of the usual assumptions of microeconomic theory do not hold. The main conclusion is the need of expanding current theory in order to take into consideration the asymmetric behavior, which characterizes monetary prices in contemporary economy. *Económica*, Jan.-Apr. 1985, 31(1), pp. 3-19 (Spanish). National University of La Plata, Argentina.

Betan-court, Roger R.—The Duration of Operations and the Estimation of Substitution Possibilities

In this paper a simple procedure is presented to allow the estimation of substitution possibilities in the presence of variations in the duration of operations. The result is applicable to any production function consistent with a classical cost function. *Europ. Econ. Rev.* Dec. 1986, 30(6), pp. 1189-95. University of Maryland.

Bond, Eric W.—The Effect of Used Markets with Endogenous Replacement of Durable Goods

This paper examines the optimal retirement age and trading time for durable goods with heterogeneous buyers. It is shown that the presence of used markets leads to a uniform retirement age for all durable goods, but the average replacement rate may either rise or fall relative to that without used markets. This differs from previous models in which used mar-

kets must lengthen the life of durables. Conditions are derived under which restrictions on used markets (either taxes or outright bans) will cause the demand for new goods to fall. *Southern Econ. J.*, Oct. 1986, 53(2), pp. 422-31. Pennsylvania State University.

Boyer, Marcel and Moreaux, Michel—Rationnement, anticipations rationnelles et équilibres de Stackelberg (Rationing, Rational Expectations and Stackelberg Equilibria)

The authors consider a Stackelberg-like duopoly in which the strategy space of the firms are price-quantity pairs; meaning that, at this price, a firm is willing to sell at most the supplied quantity. It is shown that, at the equilibrium, the leader will quote a price lower than the price quoted by the follower and that, at the price he quotes, he will ration his demand. Hence, the result is market structure in which price rigidities and persistent excess demand are immediate outcomes of the noncompetitive behavior of some agents. *Ann. Econ. Statist.*, Jan.-Mar. 1986, (1), pp. 55-73 (French). University of Montreal; GREMAQ, University of Social Sciences of Toulouse.

Brown, Donald—Increasing Returns and the Share Economy

Under imperfect competition, profit maximization by firms results in the market price exceeding the marginal cost of production; Martin Weitzman terms this "excess supply." Weitzman wishes to replicate in the cost function (in terms of labor) the properties of the revenue function (in terms of output), thus generating "excess demand" for labor. A revenue-sharing scheme will achieve this if, and only if, there are decreasing returns to scale. Hence, increasing returns apparently play no role in Weitzman's analysis. *J. Compar. Econ.*, Dec. 1986, 10(4), pp. 454-56. Yale University.

Bucovetsky, Sam and Chilton, John—Concurrent Renting and Selling in a Durable-Goods Monopoly under Threat of Entry

This article analyzes the choice of contract (sales or rental) of a durable-goods monopolist facing a threat of future entry. Although in the absence of such a threat a monopolist would prefer to rent his entire output, the authors

show that the threat of entry alters that preference. There is an optimal preentry contract mix, involving both rental and sales. If both firms behave as Cournot duopolists after entry, the optimal choice of preentry contracts enables the erstwhile monopolist to gain the same profits as he would if he behaved as a von Stackelberg leader. *Rand J. Econ.*, Summer 1986, 17(2), pp. 261-75. University of Western Ontario; University of South Carolina.

Champsaur, Paul and Rochet, Jean-Charles—Concurrence par les prix et variété des produits (Price Competition and Product Variety)

The literature provides two polar explanations for the variety of products or qualities offered on the market. Either this variety results from the number of firms, each of which supplies a single product or quality. Or else there is a monopoly offering a variety of products, that is, choosing its catalogue of goods in order better to exploit the diversity of its clientele. This article is a contribution to the development of an intermediary approach permitting an analysis of oligopoly situation without any a priori restriction on the variety of products by the individual firm. *Ann. Econ. Statist.*, Jan.-Mar. 1986, (1), pp. 153-73 (French). Direction de la Prévision, Paris; CEREMADE, University of Paris IX.

Cooper, Thomas E.—Most-Favored-Customer Pricing and Tacit Collusion

This article examines the role of the most-favored-customer pricing policy as a practice facilitating coordination in a dynamic model of price-setting duopoly. This policy is a promise by a firm that if it later lowers price, it will rebate to current customers the difference between the price they pay now and the lower future price. By reducing each firm's incentive to reduce price, the policy enables both firms to offer higher prices and to enjoy higher profits. Consequently, at least one firm offers the policy in equilibrium. These general results are illustrated in an example. *Rand J. Econ.*, Autumn 1986, 17(3), pp. 377-88. University of Florida.

Dana, Rose-Anne and Montuocchio, Luigi—Dynamic complexity in Duopoly Games

The authors discuss the occurrence of periodic and chaotic phenomena in infinite horizon duopoly games where firms maximize their discounted sum of profits and use Markov perfect equilibrium strategies. In the alternating case their corresponding actions are then constrained orbits of a map similar to a Cournot tâtonnement. It is shown that any behavior is possible for small discount factors and that one obtains the Cournot tâtonnement as the discount factor goes to zero. In the simultaneous case, it is shown by means of an example that many Cournot tâtonnements can be viewed as Markov perfect equilibria of an infinite horizon game and that one obtains the Nash equilibrium of the static game as the discount parameter goes to zero. The authors are thus led to study in detail the dynamical properties of a Cournot tâtonnement. *J. Econ. Theory*, Oct. 1986, 40(1), pp. 40-56. University of Paris VI; Politecnico di Torino, Italy.

Davidson, Carl and Deneckere, Raymond—Long-run Competition in Capacity, Short-run Competition in Price, and the Cournot Model

In this article the authors investigate the nature of equilibrium in markets in which firms choose the scale of operation before they make pricing decisions. A duopoly model in which firms choose their capacities before engaging in Bertrand-like price competition is analyzed. It is demonstrated that the Cournot outcome is unlikely to emerge in such markets and that the equilibrium tends to be more competitive than the Cournot model would predict. In addition, the results indicate a tendency toward asymmetric firm sizes and price dispersion that results from the mixed strategies firms use in equilibrium. *Rand J. Econ.*, Autumn 1986, 17(3), pp. 404-15. Michigan State University; Northwestern University.

Dekel, Eddie—An Axiomatic Characterization of Preferences under Uncertainty: Weakening the Independence Axiom

The independence axiom used to derive the expected utility representation of preferences over lotteries is replaced by requiring only convexity, in terms of probability mixtures, of indifference sets. Two axiomatic characterizations

are proven, one for simple measures and the other continuous and for all probability measures. The representations are structurally similar to expected utility, and are unique up to a generalization of affine transformations. First order stochastic dominance and risk aversion are discussed using a method which finds an expected utility approximation to these preferences without requiring differentiability of the preference functional. *J. Econ. Theory*, Dec. 1986, 40(2), pp. 304-18. Harvard University.

Demange, Gabrielle—Free Entry and Stability in a Cournot Model

In a Cournot model for a single homogeneous good, the author studies simultaneously two stability properties of a Cournot equilibrium: the stability of a continuous quantity adjustment process with a fixed number of firms and the stability relative to entry. Under usual assumptions, it is shown that these two properties are consistent—i.e., there exists an equilibrium that is stable in both senses—and the number of active firms are determined quite sharply. *J. Econ. Theory*, Dec. 1986, 40(2), pp. 283-303. Laboratoire d'Econometrie de l'Ecole Polytechnique, Paris.

Demange, Gabrielle and Ponsard, Jean-Pierre—Barrière de mobilité et concurrence dans un duopole. Essai de formalisation dans le cadre de la théorie des jeux (Barriers to Mobility and Competition in a Duopoly: An Attempt to Formalize within the Context of Game Theory)

This article takes the following question as a point of departure: if one firm is more efficient than a rival, does it have cause to initiate a price war? In order to study the question, the authors rely on a simple duopoly model and try to make especially heavy use of the concept of barrier to mobility. They are able to show that such factors as relative cost positions, size and degree of market power as well as global elasticity of demand play an important role. Some early results concerning the role of time are obtained on the basis of a comparative static analysis. *Ann. Econ. Statist.*, Jan.-Mar. 1986, (4), pp. 35-53 (French). Laboratoire d'Econometrie de l'Ecole Polytechnique, Paris; CNRS.

Dowrick, Steve—Von Stackelberg and Cournot Duopoly: Choosing Roles

Under what circumstances will firms agree on the choice of roles of leader and follower in the von Stackelberg duopoly model? A key determinant is the slope of the firms' reaction functions (in either price or quantity space). The duopolists will disagree over the choice of roles if they have downward-sloping reaction functions. Each will prefer to be the leader. They will also disagree if they have upward-sloping reaction functions and similar profit functions. Each will prefer that the other be the leader. Preferences between von Stackelberg and Cournot outcomes are also considered. *Rand J. Econ.* Summer 1986, 17(2), pp. 251-60. Australian National University.

Dye, Ronald A.—Optimal Monitoring Policies in Agencies

This article considers a principal-agent problem in which the principal has access to a cost monitoring technology that can be used to acquire additional information about the agent's actions subsequent to observing the agent's output. Although randomized monitoring policies are feasible, the author shows that in a variety of contexts optimal monitoring policies are deterministic and "lower-tailed." That is, there exists some critical level of output such that further investigation of the agent's actions occurs if, and only if, output falls below this critical level. *Rand J. Econ.*, Autumn 1986, 17(3), pp. 339-50. Northwestern University.

Epple, Dennis—Hedonic Prices and Implicit Markets: Estimating Demand and Supply functions for Differentiated Products

In choosing the level of quality to purchase, the buyer of a differentiated product also chooses a point on the marginal price schedule for that product. Hence, in general, the demand functions for product characteristics cannot be consistently estimated by ordinary least squares. Market equilibrium results in a matching of characteristics of demanders and suppliers. This matching restricts the use of buyer and seller characteristics as instruments when estimating demand and supply functions for product characteristics. The paper develops these issues. A stochastic structure for hedonic

equilibrium models is then proposed, identification results are presented, and estimation procedures are outlined. *J. Polit. Econ.*, Feb. 1987, 95(1), pp. 59-80. Carnegie-Mellon University.

Fershtman, Chaim and Muller, Eitan—Capital Investments and Price Agreements in Semicollusive Markets

The authors consider a semicollusive market where firms compete in a long-run variable, such as investment in capital or capacity, and collude with respect to a short-run variable, such as price or market shares. The concern is with the potential destabilizing effect of the long-run competition on the short-run collusion. It is shown that under a certain refinement of the equilibrium, the set of equilibria is reduced to include just the one in which the collusive agreement is stable. Some support is lent to the phenomenon of an inverse association between advertising and competition by investigating the conditions under which overcapitalization occurs in the above equilibrium. *Rand J. Econ.*, Summer 1986, 17(2), pp. 214-26. Hebrew University.

Franke, Reiner—Some Problems Concerning the Notion of Cost-Minimizing Systems in the Framework of Joint Production

The paper is concerned with the issue of production prices and the underlying notion of equilibrium in linear joint production systems with technical choice. Conditions are stated (without proof) that ensure the existence of such a cost-minimizing system. In particular, the roles of negative prices and of costly disposal are discussed. Finally, the wage-profit frontier is defined in this framework and an example is given exhibiting a peculiarity of a new type. *Manchester Sch. Econ. Soc. Stud.* Sept. 1986, 54(3), pp. 298-307. University of Bremen, West Germany.

Frayssé, Jean—Existence des équilibres de Cournoti un tour d'horizon. (Existence of a Cournot Equilibrium: A Survey)

This paper surveys results on existence of a Cournot equilibrium in a partial equilibrium framework, with a particular attention to recent research on large markets. The literature offers

a large number of formulations. All of them are not covered, but the author thinks that the strong cases studied give a correct idea of the results and the methods of proof. These methods use fixed-point theorems for noncontinuous mappings or nonconvexvalued correspondences; they are expounded in appendix. *Ann. Econ. Statist.*, Jan./Mar. 1986, (1), pp. 9-33 (French). GREMAQ, University of Social Sciences of Toulouse.

Fujita, Masahisa and Thisse, Jacques-François—Spatial Competition with a Land Market: Hotelling and Von Thunen Unified

The authors introduce into the standard spatial competition model the consumption of land by households. The spatial distribution of households is treated as endogenous, and a land market is introduced on which households compete for land-use. Households consume simultaneously land and firms' output. Accordingly, the demand of each household becomes, in turn, endogenous as it depends on the income left after the land rent is paid. The results obtained within this more general framework prove to be very different from the standard results. *Rev. Econ. Stud.*, Oct. 1986, 53(5), pp. 819-41. University of Pennsylvania; University of Pennsylvania and CORE.

Furth, Dave—Stability and Instability in Oligopoly

For regular oligopolies (both homogeneous and heterogeneous) the (local) Cournot-Nash equilibria are the (nondegenerate) critical points of a Morse-Smale vector field, defined on the feasible region of nonnegative prices and outputs. When at the boundary of this feasible region this vector field points inward, it follows from the Morse inequalities that there is at least one stable equilibrium. When there is a unique, nonstable, interior equilibrium, necessarily the vector field points outward somewhere along the boundary of the feasible region. This raises to a stable boundary equilibrium. *J. Econ. Theory*, Dec. 1986, 40(2), pp. 197-228. University of Amsterdam.

Gaynor, Martin—Misperceptions, Moral Hazard and Incentives in Groups

are proven, one for simple measures and the other continuous and for all probability measures. The representations are structurally similar to expected utility, and are unique up to a generalization of affine transformations. First order stochastic dominance and risk aversion are discussed using a method which finds an expected utility approximation to these preferences without requiring differentiability of the preference functional. *J. Econ. Theory*, Dec. 1986, 40(2), pp. 304-18. Harvard University.

Demange, Gabrielle—Free Entry and Stability in a Cournot Model

In a Cournot model for a single homogeneous good, the author studies simultaneously two stability properties of a Cournot equilibrium: the stability of a continuous quantity adjustment process with a fixed number of firms and the stability relative to entry. Under usual assumptions, it is shown that these two properties are consistent—i.e., there exists an equilibrium that is stable in both senses—and the number of active firms are determined quite sharply. *J. Econ. Theory*, Dec. 1986, 40(2), pp. 283-303. Laboratoire d'Econometrie de l'Ecole Polytechnique, Paris.

Demange, Gabrielle and Ponsard, Jean-Pierre—Barrière de mobilité et concurrence dans un duopole. Essai de formalisation dans le cadre de la théorie des jeux (Barriers to Mobility and Competition in a Duopoly: An Attempt to Formalize within the Context of Game Theory)

This article takes the following question as a point of departure: if one firm is more efficient than a rival, does it have cause to initiate a price war? In order to study the question, the authors rely on a simple duopoly model and try to make especially heavy use of the concept of barrier to mobility. They are able to show that such factors as relative cost positions, size and degree of market power as well as global elasticity of demand play an important role. Some early results concerning the role of time are obtained on the basis of a comparative static analysis. *Ann. Econ. Statist.* Jan.-Mar. 1986, (1), pp. 35-53 (French). Laboratoire d'Econometrie de l'Ecole Polytechnique, Paris; CNRS.

Dowrick, Steve—Von Stackelberg and Cournot Duopoly: Choosing Roles

Under what circumstances will firms agree on the choice of roles of leader and follower in the von Stackelberg duopoly model? A key determinant is the slope of the firms' reaction functions (in either price or quantity space). The duopolists will disagree over the choice of roles if they have downward-sloping reaction functions. Each will prefer to be the leader. They will also disagree if they have upward-sloping reaction functions and similar profit functions. Each will prefer that the other be the leader. Preferences between von Stackelberg and Cournot outcomes are also considered. *Rand J. Econ.* Summer 1986, 17(2), pp. 251-60. Australian National University.

Dye, Ronald A.—Optimal Monitoring Policies in Agencies

This article considers a principal-agent problem in which the principal has access to a cost monitoring technology that can be used to acquire additional information about the agent's actions subsequent to observing the agent's output. Although randomized monitoring policies are feasible, the author shows that in a variety of contexts optimal monitoring policies are deterministic and "lower-tailed." That is, there exists some critical level of output such that further investigation of the agent's actions occurs if, and only if, output falls below this critical level. *Rand J. Econ.*, Autumn 1986, 17(3), pp. 339-50. Northwestern University.

Epplé, Dennis—Hedonic Prices and Implicit Markets: Estimating Demand and Supply functions for Differentiated Products

In choosing the level of quality to purchase, the buyer of a differentiated product also chooses a point on the marginal price schedule for that product. Hence, in general, the demand functions for product characteristics cannot be consistently estimated by ordinary least squares. Market equilibrium results in a matching of characteristics of demanders and suppliers. This matching restricts the use of buyer and seller characteristics as instruments when estimating demand and supply functions for product characteristics. The paper develops these issues. A stochastic structure for hedonic

equilibrium models is then proposed, identification results are presented, and estimation procedures are outlined. *J. Polit. Econ.*, Feb. 1987, 95(1), pp. 59-80. Carnegie-Mellon University.

Fershtman, Chaim and Muller, Eitan—Capital Investments and Price Agreements in Semicollusive Markets

The authors consider a semicollusive market where firms compete in a long-run variable, such as investment in capital or capacity, and collude with respect to a short-run variable, such as price or market shares. The concern is with the potential destabilizing effect of the long-run competition on the short-run collusion. It is shown that under a certain refinement of the equilibrium, the set of equilibria is reduced to include just the one in which the collusive agreement is stable. Some support is lent to the phenomenon of an inverse association between advertising and competition by investigating the conditions under which overcapitalization occurs in the above equilibrium. *Rand J. Econ.*, Summer 1986, 17(2), pp. 214-26. Hebrew University.

Franke, Reiner—Some Problems Concerning the Notion of Cost-Minimizing Systems in the Framework of Joint Production

The paper is concerned with the issue of production prices and the underlying notion of equilibrium in linear joint production systems with technical choice. Conditions are stated (without proof) that ensure the existence of such a cost-minimizing system. In particular, the roles of negative prices and of costly disposal are discussed. Finally, the wage-profit frontier is defined in this framework and an example is given exhibiting a peculiarity of a new type. *Manchester Sch. Econ. Soc. Stud.* Sept. 1986, 54(3), pp. 298-307. University of Bremen, West Germany.

Frayssé, Jean—Existence des équilibres de Cournoti un tour d'horizon. (Existence of a Cournot Equilibrium: A Survey)

This paper surveys results on existence of a Cournot equilibrium in a partial equilibrium framework, with a particular attention to recent research on large markets. The literature offers

a large number of formulations. All of them are not covered, but the author thinks that the strong cases studied give a correct idea of the results and the methods of proof. These methods use fixed-point theorems for noncontinuous mappings or nonconvexvalued correspondences; they are expounded in appendix. *Ann. Econ. Statist.*, Jan./Mar. 1986, (1), pp. 9-33 (French). GREMAQ, University of Social Sciences of Toulouse.

Fujita, Masahisa and Thisse, Jacques-François—Spatial Competition with a Land Market: Hotelling and Von Thunen Unified

The authors introduce into the standard spatial competition model the consumption of land by households. The spatial distribution of households is treated as endogenous, and a land market is introduced on which households compete for land-use. Households consume simultaneously land and firms' output. Accordingly, the demand of each household becomes, in turn, endogenous as it depends on the income left after the land rent is paid. The results obtained within this more general framework prove to be very different from the standard results. *Rev. Econ. Stud.*, Oct. 1986, 53(5), pp. 819-41. University of Pennsylvania; University of Pennsylvania and CORE.

Furth, Dave—Stability and Instability in Oligopoly

—For regular oligopolies (both homogeneous and heterogeneous) the (local) Cournot-Nash equilibria are the (nondegenerate) critical points of a Morse-Smale vector field, defined on the feasible region of nonnegative prices and outputs. When at the boundary of this feasible region this vector field points inward, it follows from the Morse inequalities that there is at least one stable equilibrium. When there is a unique, nonstable, interior equilibrium, necessarily the vector field points outward somewhere along the boundary of the feasible region. This raises to a stable boundary equilibrium. *J. Econ. Theory*, Dec. 1986, 40(2), pp. 197-228. University of Amsterdam.

Gaynor, Martin—Misperceptions, Moral Hazard and Incentives in Groups

Recent work has shown that, in the presence of moral hazard, balanced-budget Nash equilibria in groups are not Pareto-optimal. This work shows that when agents misperceive the effects of their actions on the joint outcome there exists a set of sharing rules which balance the budget and lead to a Pareto-optimal Nash equilibrium. *Managerial Dec. Econ.*, Dec. 1986, 7(4), pp. 279-82. State University of New York at Binghamton.

Hassin, Refael—Consumer Information in Markets with Random Product Quality: The Case of Queues and Balking

The author considers a revenue-maximizing server who has the opportunity to suppress information on actual queue length, leaving demanders to decide on joining the queue on the basis of the known distribution of waiting times. The following second best problem is addressed: if suppression, but not pricing, can be socially controlled, it is socially optimal to prevent suppression? It is shown that it may be, but is not always, socially optimal to prevent suppression, and that it is never optimal to encourage suppression when the revenue maximizer prefers to reveal the queue length. *Econometrica*, Sept. 1986, 54(5), pp. 1185-95. Tel-Aviv University.

van den Heuvel, Paul—Nonjoint Production and the Cost Function: Some Refinements

R. E. Hall (1973) gives characterizations of a nonjoint technology in terms of the technology's input requirements sets and in terms of its cost functions. Hall's theorems are reconsidered and an improvement is obtained in the formulations. It is shown that a restatement is needed, especially with respect to the cost function theorem, in order to avoid misunderstandings. Furthermore, a local version of nonjoint production is formulated. *J. Econ. (Z. National-ökon.)*, 1986, 46(3), pp. 283-97. Netherlands Bank, Amsterdam.

Hobbs, Benjamin F.—Mill Pricing versus Spatial Price Discrimination under Bertrand and Cournot Spatial Competition

This paper asks two questions about spatial competition. First, does spatial price discrimination lead to higher prices for consumers? Second, does spatial price discrimination lead to higher prices for consumers? Four price

than mill pricing? If firms hold the Bertrand conjecture, the answer is yes for most values of fixed cost. But for the Cournot conjecture, the opposite is true. Second, does the introduction of space into the oligopoly models of Bertrand and Cournot change their results? The answer is generally no; however, spatial Bertrand prices exceed marginal cost, unlike their spaceless counterparts. These answers are obtained using models of spatial competition, of which the Cournot mill pricing models are new. *J. Ind. Econ.*, Dec. 1986, 35(2), pp. 173-91. Case Western Reserve University.

Judd, Kenneth L. and Petersen, Bruce C.—Dynamic Limit Pricing and Internal Finance

This paper examines a model of dynamic limit pricing with a profit-maximizing fringe constrained to finance new investment from internal finance. In a differential game, the dominant firm controls price, thereby determining the current earnings of the fringe, while the fringe chooses its optimal retention ratio. If market growth is less than the discount rate, an important feature of the solution is that price must eventually drop to the fringe long-run cost of production. If market growth is initially rapid, the dominant firm is much more aggressive in limiting fringe growth. *J. Econ. Theory*, Aug. 1986, 39(2), pp. 368-99. Northwestern University.

Kahneman, Daniel; Knetsch, Jack and Thaler, Richard—Fairness and the Assumptions of Economics

Public standards of fairness for the behavior of firms were studied and their possible economic consequences are explored. Evidence of resistance to unfairness is presented: people are willing to incur costs to avoid a transaction in which they are treated unfairly. The existence of such attitudes in customer and labor markets could provide an incentive for profit-maximizing firms to behave in accordance with standards of fairness. Survey results indicate that it is unfair for firms to exploit an increase in their market power, but acceptable for them to maintain current profits by raising prices and for unprofitable firms to lower wages. Judgments of fairness are susceptible to framing effects and to the more subtle effects of four price

tions about market phenomena are drawn from the rules of fairness. *J. Bus.*, Pt. 2, Oct. 1986, 59(4), pp. S285-300. University of British Columbia; Simon Fraser University; Cornell University.

Kolstad, Charles D. and Wolak, Frank A.—
Conjectural Variation and the Indeterminacy of Duopolistic Equilibria

The purpose of this article is to investigate the basic premise that the various oligopoly models result in an unacceptable divergence in market equilibria. In the first half of the paper a theoretical model of a static conjectural variation duopoly with symmetric costs is presented. Using this model, the authors define the coefficient of dispersion of equilibria and show that it is solely a function of the basic conditions of the market—costs and demand. This result is of empirical significance because it is possible to determine *ex ante*, from easily observable information, the extent to which conjectural variation (market conduct) will influence market equilibrium. *Can. J. Econ.*, Nov. 1986, 19(4), pp. 656-77. University of Illinois; Stanford University.

Kubo, Yuji—Quality Uncertainty and Guarantee: A Case of Strategic Market Segmentation by a Monopolist

This paper presents a monopoly model with product quality uncertainty in which an optional quality guarantee is used to effectively segment the monopolist's potential market and price-discriminate among consumers having different incomes. The optional guarantee pricing is seen to dominate pure monopoly pricing, either with tied-in guarantee or no guarantee in terms of maximum expected profits. In the optional guarantee equilibrium, the monopolist captures a larger part of this potential market by charging a lower price for an unguaranteed product and a higher price for a guaranteed product, than does either of the pure monopoly solutions. *Europ. Econ. Rev.*, Oct. 1986, 30(5), pp. 1063-79. University of Tsukuba, Ibaraki-Ken, Japan.

Laband, David N.—Stoplight Sales and Sidewalk Solicitations: Some Simple Economics of Forced Consumption

The so-called "squeegee kids" who wash the windshields of motorists stopped by a red light in exchange for a "donation" are a recent innovation in stoplight vendors. The social mores of value in exchange for value and desire to remove extortion elements motivate motorists to pay the youngsters. The welfare and distributional effects of stoplight sales as a joint product involving provision of a service and extortion are examined in this paper. The argument is then extended to certain types of charitable appeals that also employ the value in exchange for value mechanism and elements of extortion to generate donations in excess of those that would be realized from a purely charitable appeal. *J. Econ. Behav. Organ.*, Dec. 1986, 7(4), pp. 403-14. Clemson University.

Lambert, Richard A.—Executive Effort and Selection of Risky Projects

This article examines the incentives of executives to adopt risky projects. The agency problem considered is that of motivating the executive to expend effort to generate information about the profitability of projects and to select the "best" project conditional upon the information that his effort generates. The author shows that the executive and the principal will not always agree regarding which project is best. Conditions are provided under which this conflict of interest leads (from the principal's perspective) to either an underinvestment or an overinvestment in risky projects. *Rand J. Econ.*, Spring 1986, 17(1), pp. 77-88. University of Pennsylvania.

Lau, Lawrence J. and Ma, Barry K.—Choice of Technique in a Putty-Clay Model of Production

The choice of technique with uncertain prices is analyzed. Under expected profit maximization (and, hence, risk neutrality) and gamma-distributed prices, the optimal technique is shown to be the same as that of certainty equivalence at the means if, and only if, the *ex ante* production function is of the Cobb-Douglas form with the parameters determined completely by the parameters of the gamma distributions. This result provides an example of the inconsistency of the certainty equivalence argument in general even with risk neu-

trality. *Eastern Econ. J.*, July-Sept. 1986, 19(3), pp. 321-26. Stanford University; McGill University.

Luton, Richard A. and McAfee, R. Preston—Sequential Procurement Auctions

Two auctions are held in sequence with the possibility of learning between the second and the first. The buyer optimally chooses to discriminate against the winner of the first auction in the second. The optimal mechanism has a discontinuity in the winner's second bid; this strictly dominates a sequence of independent sealed bid auctions. *J. Public Econ.*, Nov. 1986, 31(2), pp. 181-95. University of Western Ontario, London, Ontario.

Magill, Michael J. P. and Nermuth, Manfred—On the Qualitative Properties of Futures Market Equilibrium

This paper studies the qualitative properties of a model of futures market equilibrium. The authors characterize the bias (backwardation or contango) in the futures price, the extent to which output is hedged by producers, and the output that is produced relative to the case of no uncertainty. They show that only three cases can arise, and give precise conditions under which these three cases arise when the number of speculators is very large. The conditions involve the nature of the stochastic dependence between the spot price and the random returns that speculators earn on markets in the rest of the economy. *J. Econ. (Z. Nationalökon.)*, 1986, 46(3), pp. 233-52. University of Southern California; University of Bielefeld, West Germany.

Mak, King-Tim—On Separability: Functional Structure

C. J. Bliss' notion of nonstrict separability is shown to be the most general, yet practical, formulation of separability. This paper extends the classic theory of strict separability to nonstrict separability. W. M. Gorman's basic theorem for overlapping strictly separable groups of variables is generalized. With the generalized basic theorem on hand, Gorman's procedure for deducing functional structures can be extended for deducing the internal structure of a wider class of economic systems modeled by continuous functions. The generalized basic

theorem also prepares for the joint characterization of the additively separable and Leontief functional forms. *J. Econ. Theory*, Dec. 1986, 40(2), pp. 250-82. University of Illinois at Chicago.

Malcomson, James M.—Rank-Order Contracts for a Principal with Many Agents

For a principal with many agents, rank-order contracts remain incentive compatible even when information about agents' performance is known only to the principal because the total payment from the principal to all agents taken together is independent of the outcome that occurs. Under wider conditions than those considered previously in the literature, there is shown to exist a rank-order-contract equivalent, exactly or approximately, to any (nonlinear) piece-rate contract. Under those conditions, therefore, results that depend on the unenforceability of piece rates under such asymmetric information disappear if rank-order contracts can be used. *Rev. Econ. Stud.*, Oct. 1986, 53(5), pp. 807-17. University of Southampton.

Mankiw, N. Gregory and Whinston, Michael D.—Free Entry and Social Inefficiency

Previous articles have noted the possibility of socially inefficient levels of entry in markets in which firms must incur fixed set-up costs upon entry. This article identifies the fundamental and intuitive forces that lie behind these entry biases. If an entrant causes incumbent firms to reduce output, entry is more desirable to the entrant than it is to society. There is therefore a tendency toward excessive entry in homogeneous product markets. The rules of product diversity and the integer constraint on the number of firms are also examined. *Rand J. Econ.*, Spring 1986, 17(1), pp. 48-58. Harvard University.

Martin, Robert E.—Quality Choice under Labor-Management

The theory of quality choice and the profit-maximizing firm is rather well developed. The theory of quality choice and the labor-managed firm remains largely unexplored. The purpose of this paper is to develop a quality choice model that leads to: (1) comparisons between the labor-managed firm and the profit-maximizing

ing firm and (2) the effect of market structure per se on the quality choice of the labor-managed firm. *J. Compar. Econ.*, Dec. 1986, 10(4), pp. 400-413. Louisiana State University.

McAfee, R. Preston and McMillan, John—Bidding for Contracts: A Principal-Agent Analysis

This article models the process of bidding for government contracts in the presence of moral hazard. Several (possible risk-averse) potential contractors (agents) submit sealed bids, on the basis of which the government (principal) selects one to perform a task. The optimal linear contract is derived. The bidding process induces the potential agents to reveal their relative expected costs. The optimal contract trades off giving the chosen agent an incentive to limit costs against stimulating bidding competition and sharing risks. The optimal contract is never cost-plus, may be fixed-price, but is usually an incentive contract. Some prescriptions for government contracting emerge. *Rand J. Econ.*, Autumn 1986, 17(3), pp. 326-38. University of Western Ontario.

Michel, Philippe—Dynamique de l'accumulation de capital en présence de contraintes de débouchés (A Dynamic Analysis of Capital Accumulation with Expected Demand Constraints)

There are different formulations of capital inertia based on costs of adjustment. The differences in the results derive essentially from the returns to scale of the revenue function relating production and costs. Based on an example, the author studies two questions bearing on the role of the anticipated constraints: the lag between the application of a constraint and the diminution of investments, and the influence of fluctuations in demand on investment decisions. *Ann. Econ. Statist.*, Apr./June 1986, (2), pp. 117-45 (French). University of Paris-I.

Okuguchi, Koji—Labor-Managed Bertrand and Cournot Oligopolies

The equilibrium prices for output-adjusting labor-managed Cournot oligopoly under product differentiation and those for price-adjusting Bertrand oligopoly are compared. The global stability condition for the Bertrand equilibrium

prices ensures that the Cournot equilibrium prices are not lower than the Bertrand equilibrium prices. *J. Econ. (Z. Nationalökon.)*, 1986, 46(2), pp. 115-22. Tokyo Metropolitan University.

Plott, Charles R.—Rational Choice in Experimental Markets

The theory of rational behavior has several different uses: (1) it is used at the most fundamental level of experimental methodology to induce preferences used as parameters in models; (2) it appears repeatedly in experimentally successful mathematical models of complex phenomena such as speculation, bidding and signaling; (3) it is used as a tool to generate *ex post* models of results that are otherwise inexplicable; and (4) it has been used as a tool to successfully design new institutions to solve specific problems. When tested directly the theory can be rejected. It is retained because neither an alternative theory nor an alternative general principle accomplishes so much. *J. Bus.*, Pt. 2, Oct. 1986, 59(4), pp. S301-27. California Institute of Technology.

Raut, Lakshmi Kanta—Myopic Topologies on General Commodity Spaces

Continuity of preferences imposes behavioral restrictions on the preferences such as impatience or myopia. This paper extends the different notions of myopia due to D. J. Brown and L. M. Lewis, and their characterization of the Mackey topology in terms of myopia, from L_∞ to L_∞ . Then this characterization of the Mackey topology on L_∞ is used to extend Araujo's theorem on the necessity of impatience for the existence of competitive equilibrium from L_∞ to L_∞ . *J. Econ. Theory*, Aug. 1986, 39(2), pp. 358-67. World Bank.

Russell, Allen M.; Rickard, John A. and Howroyd, T. D.—The Effects of Delays on the Stability and Rate of Convergence to Equilibrium of Oligopolies

The stability of oligopolies is investigated using the Cournot strategy and a general output adjustment procedure. Information delays are incorporated into the adjustment procedure and their specific effects upon the dynamic stability of oligopolies is investigated. The stability

of equilibrium for discrete models is unaffected by information delays and remoteness of planning horizons. For continuous models with delays, some restraints are required for stability. *Econ. Rec.*, June 1986, 62(177), pp. 194-98. University of Melbourne; University of Melbourne; University of New Brunswick, Canada.

Sakai, Yasuhiro—Cournot and Bertrand Equilibria under Imperfect Information

This paper investigates a duopoly model (under both the Cournot and the Bertrand behavioral assumptions) with differentiated products under imperfect information that stems from uncertainty associated with the (possibly different) demand/cost structures facing the two firms. Focus is on assessing the combined force of physical and stochastic interactions between those firms. It is shown that the shared information structure is generally better than the private information structure for duopolists. Intermediate cases include the possibility that unilateral transmission of information always benefits the sender, but might hurt the receiver. The findings under the Cournot and Bertrand assumptions are then compared. *J. Econ. (Z. Nationalökon.)*, 1986 46(3), pp. 213-32. University of Tsukuba, Ibaraki, Japan.

Sengupta, Jati K.—Optimal Monopolistic Strategy under Demand Uncertainty

The objective of this paper is two-fold: to analyze the implications of using inventories in the behavioral modes of the monopolistic strategy and to derive a dynamic decision rule when the monopolist is strictly risk averse and there is parametric uncertainty in the demand function. *J. Econ. (Z. Nationalökon.)*, 1986, 46(2), pp. 101-13. University of California, Santa Barbara.

Simon, Herbert A.—Rationality in Psychology and Economics

The assumption that actors maximize subjective expected utility (economic rationality) supplies only a small part of the premises in economic reasoning, and that often not the essential part. The remainder of the premises are auxiliary empirical assumptions about actors' attitudes, beliefs, expectations, and the like. Making these assumptions correctly requires

an empirically founded theory of choice that specifies what information decisionmakers use and how they actually process it. This behavioral empirical base is largely lacking in contemporary economic analysis, and supplying it is essential for enhancing the explanatory and predictive power of economics. *J. Bus.*, Pt. 2, Oct. 1986, 59(4), pp. S209-24. Carnegie-Mellon University.

Spulber, Daniel F.—Second-Best Pricing and Cooperation

This article studies pricing for natural monopolies by using a cooperative game of joint production. Outputs are allocated by a price system. The author introduces the concept of the second-best core, which is a subset of the set of zero-profit, second-best Pareto-optimal prices. Prices are such that no group of consumers subsidizes the purchase of another group. The relations among the second-best core and sustainability, supportability, and natural monopoly are considered. For specific preferences and technology, the existence of the second-best core is demonstrated. A market mechanism for franchise allocation, which achieves second-best pricing without price regulation, is designed. *Rand J. Econ.*, Summer 1986, 17(2), pp. 239-50. University of Southern California.

Vislie, Jon—Joint Production and Market Structure: The Case of Oil and Natural Gas

This paper is concerned with joint production and mixed market structure, where one commodity is traded according to a contract established between the seller and a buyer, determined as a Nash bargaining solution, and the other commodity is traded at a world market at a given price. Such a model describes the market for natural gas in Western Europe, which is very much like a bilateral oligopoly. Some properties of the gas contract are derived and the resourceowner's optimal oil production, given those contract rules, is determined. The exogenous oil price plays a crucial role. *J. Econ. (Z. Nationalökon.)*, 1986, 46(2), pp. 163-73. University of Oslo.

Zeira, Joseph—Investment as a Process of Search

This paper analyzes optimal capital accumulation in the face of "structural uncertainty," in which the firm does not fully know its own profit function, and it can discover it only through further investment. It is shown that under structural uncertainty capital accumulation is gradual even when adjustment costs are linear and not convex. It is further shown that structural uncertainty creates an incentive to market research. The paper also presents an example of structural uncertainty in which an additional price uncertainty has a negative effect on investment, contrary to the standard models. *J. Polit. Econ.*, Feb. 1987, 95(1), pp. 204-10. Hebrew University, Jerusalem.

023 Macroeconomic Theory

Azariadis, Costas and Guesnerie, Roger—Sunspots and Cycles

Because sunspot equilibria seem to be of central importance for an understanding of rational expectations, the authors seek to characterize completely a limited class of sunspot equilibria (stationary ones with two possible natural events) in the simplest overlapping generations model of production. They present a sufficient condition for the existence of stationary sunspot equilibria, examine how these are related to strictly periodic equilibria of the same order, and investigate how deterministic stationary equilibria bifurcate to stationary sunspot equilibria. *Rev. Econ. Stud.*, Oct. 1986, 53(5), pp. 725-37. University of Pennsylvania; EHESS and ENPC, Paris.

Blinder, Alan S.—Keynes after Lucas

This paper argues that intellectual resources in macroeconomics have been misallocated during the past ten to fifteen years. The Keynesian consensus, as it existed in the United States around 1972, is contrasted with the new classical approach. It is argued that, except in a few respects (e.g., more serious modeling of expectations), the latter is not an obvious improvement over the former. It is further argued that the parts of the Keynesian model that were questioned least by new classical critics (e.g., the LM curve) may be the weakest links in the chain. Hence there remains an important Keynesian research agenda. *Eastern Econ. J.*, July-Sept. 1986, 12(3), pp. 209-16. Princeton University.

Cukierman, Alex and Meltzer, Allan H.—A Theory of Ambiguity, Credibility, and Inflation under Discretion and Asymmetric Information

The paper develops a positive theory of credibility, ambiguity, and inflation under discretion and asymmetric information. The monetary policymaker maximizes his own, politically motivated, objective function. The importance he assigns to objectives shifts stochastically through time. These shifts give rise to asymmetries in information. Expectations are rational, but information is imperfect because control procedures are imprecise. The public becomes aware of persistent changes in policymaker's objectives gradually. Credibility is defined in terms of the speed with which the public learns about policy changes. Ambiguous control procedures are shown to benefit the policymaker who wants to stimulate. *Econometrica*, Sept. 1986, 54(5), pp. 1099-1128. Tel-Aviv University; Carnegie-Mellon University.

Davidson, Paul—The Simple Macroeconomics of a Nonergodic Monetary Economy versus a Share Economy: Is Weitzman's Macroeconomics Too Simple?

L. Weitzman's share economy model achieves full employment as a result of his assumptions of the perishability of *all* goods plus an intemporal Say's Law, rather than his analysis. Without an investment sector, only government spending is autonomous and, hence, the sole source of instability. Finally, assuming the capital-labor ratio was initially greater than zero, Weitzman's analysis of a conversion of a money wage system to a share system requires employers to reduce the capital labor ratio to zero, thereby reducing the productivity of labor and its real wage toward zero. *J. Post Keynesian Econ.*, Winter 1986-87, 9(2), pp. 212-25. University of Tennessee, Knoxville.

Dutt, Amitava Krishna—Wage Rigidity and Unemployment: The Simple Diagrammatics of Two Views

There are two main views regarding the relation between involuntary unemployment and wage rigidity. The mainstream view is that unemployment is caused by wage rigidity and the dissident view is that unemployment would in-

crease with reduced wage rigidity, and wage rigidity may in fact be the response to unemployment. This paper provides a simple comparison of the two views employing the commonly used diagrammatic tools of aggregate demand and supply curves. *J. Post Keynesian Econ.*, Winter 1986-87, 9(2), pp. 279-90. Florida International University, Miami.

Fazzari, Steven M. and Mott, Tracy L.—The Investment Theories of Kalecki and Keynes: An Empirical Study of Firm Data, 1970-1982

This paper estimates an investment model based on the work of Michal Kalecki and John Maynard Keynes using a large sample of U.S. manufacturing firm data. The theory emphasizes the level of expected sales relative to existing capacity and the ability of firms to generate internal and external financing as determinants of investment. Sales, internal cash flow, and interest expense variables perform well in the estimated equation. The results strongly indicate an effect of financial variables on investment that is independent from the conventional sales or output effects. *J. Post Keynesian Econ.*, Winter 1986-87, 9(2), pp. 171-87. Washington University, St. Louis; University of Colorado, Boulder.

Geanakoplos, J. D. and Polemarchakis, H. M.—Walrasian Indeterminacy and Keynesian Macroeconomics

Overlapping generations models with or without production or a portfolio demand for money display a fundamental indeterminacy. Expectations matter, and are not, in the short run, constrained by the hypotheses of agent optimization, rational expectations, and market clearing. In this framework of perfect foresight and market clearing prices, it is possible to make Keynesian assumptions about the rigidity of money wages and the exogeneity of "animal spirits" of investors and to derive Keynesian conclusions about the short-run effectiveness of policy. Alternatively, starting from different but no less rational expectations, one can derive the "new classical" neutrality propositions. *Rev. Econ. Stud.*, Oct. 1986, 53(5), pp. 755-79. Yale University; Columbia University.

Guesnerie, Roger—Stationary Sunspot Equilibria in an N Commodity World

This article considers one-step forward looking economic systems, whose dynamics are governed by nonlinear relationships between prices today and prices tomorrow. Attention is focused on a category of rational expectations equilibria, stationary sunspot equilibria correlated with a 2-states exogenous Markov process (2-SSE). Theorem 1 provides a sufficient existence condition only involving the characteristics of the deterministic stationary equilibrium (DTS). Theorem 2 exhibits connections between multiple deterministic equilibria and semitrivial SSE. Theorems 3-4 show that 2-SSE close to the DTS have characteristics relating to those of the stable manifold of the deterministic system. *J. Econ. Theory*, Oct. 1986, 40(1), 103-27. Centre d'Economie Quantitative et Comparative, EHESS, Paris.

Hargreaves Heap, Shaun P.—Risk and Culture: A Missing Link in the Post Keynesian Tradition

Power and uncertainty are two central and distinguishing concepts in post-Keynesian economic analysis. A recent book by Mary Douglas and Aaron Wildavsky links these two concepts in new and interesting ways. This paper sketches and amends these proposed links, and suggests how they might contribute to the development of the post-Keynesian tradition. The principal, general contribution is that uncertainty is no longer regarded as some independent source of social explanation. Instead, uncertainty becomes a condition that expands the domain of influence of the power relations in a society, as reflected in its choice of institutions. *J. Post Keynesian Econ.*, Winter 1986-87, 9(2), pp. 267-78. University of East Anglia, Norwich, England.

Helliwell, John F.—Supply-Side Macroeconomics

This paper tests new classical and Keynesian theories of output within an encompassing model in which producers choose the utilization rate for employed inputs. Data for Canada, the United States, and several other major industrial countries reject the Keynesian, new classical, and unstructured VAR models in favor of

the highly structured factor utilization model. *Can. J. Econ.*, Nov. 1986, 19(4), pp. 597-625. University of British Columbia.

Hercowitz, Zvi—The Real Interest Rate and Aggregate Supply

This paper analyzes the effects of the anticipated real interest rate on aggregate supply variables, in a model where time-to-produce and variable capital utilization play a crucial role. The potential importance of the present mechanism for business cycle theory lies in its ability to generate positive co-movements of employment, capital utilization, labor productivity, output, and investment. These variables are predicted to be affected negatively by the real interest rate. Reduced forms for output and employment are derived and tested with Canadian data, taking estimates of the real interest rate prevailing in the United States as the relevant exogenous price. *J. Monet. Econ.*, Sept. 1986, 18(2), pp. 121-45. Tel-Aviv University and University of Western Ontario, London, Ontario.

Howitt, Peter—The Keynesian Recovery

Although modern macroeconomic analysis has almost immortalized Keynes's IS-LM framework, it has largely ignored the central message of the *General Theory*. This is attributable at least in part to Keynes's failure to provide a clear conception of market organization as an alternative to the Walrasian auction paradigm. Recent developments, however, in the theory of search and transaction externalities may ultimately provide that missing conception. Also, work on indeterminacy in rational expectations models may direct the profession's attention away from wage stickiness and back toward the intertemporal coordination problems that Keynes saw as lying at the root of unemployment. *Can. J. Econ.*, Nov. 1986, 19(4), pp. 626-41. University of Western Ontario.

Howitt, Peter—Wage Flexibility and Employment

Keynes's *General Theory* contains two propositions concerning wages and employment. First, wage reductions reduce employment. Second, increased wage flexibility makes employment more variable. This paper examines

both propositions in a rational expectations macro model. The first proposition is valid under the conditions postulated by Keynes. The second tends to be confirmed because of an expectations multiplier that makes employment more responsive to demand or wage shocks the more flexible are wages. Specifically, an increase in employment causes wages to begin rising; the anticipation of that rise causes a secondary increase in aggregate demand and employment. *Eastern Econ. J.*, July-Sept. 1986, 12(3), pp. 237-42. University of Western Ontario.

van de Klundert, Theo C. and Peters, Peter J.—Tax Incidence in a Model with Perfect Foresight of Agents and Rationing in Markets.

This paper examines the incidence of several taxes in a macroeconomic model. Producers and consumers optimize with perfect foresight. Price inertia leads to rationing in the market for goods and for labor. In the long run, the system tends toward Walrasian equilibrium. Meanwhile, there may be a Keynesian unemployment, classical unemployment or repressed inflation, with possible switches of regimes. Balanced budget policies are analyzed by working through numerical examples. *J. Public Econ.*, June 1986, 30(1), pp. 37-59. Tilburg University, the Netherlands; Nijmegen University, the Netherlands.

Mirón, Jeffrey A.—Seasonal Fluctuations and the Life Cycle-Permanent Income Model of Consumption

This paper examines a new possible explanation for the recent rejections of the life cycle-permanent income model of consumption: the treatment of seasonal fluctuations. The paper shows that when the seasonal fluctuations in consumption purchases are included in an analysis of the life cycle-permanent income model, there is no evidence in the aggregate data against the model. The estimates of the parameters of agents' utility functions obtained with seasonally unadjusted data are plausible, and the unadjusted data do not reject the overidentifying restrictions on the model. *J. Polit. Econ.*, Dec. 1986, 94(6), pp. 1258-79. University of Michigan.

Nordhaus, William—Can the Share Economy Cure Our Macroeconomic Woes? Probably Not

This paper investigates the question of whether a share economy would lead to "excess demand for labor," that is, to a tilt toward higher vacancies and lower unemployment than those of a wage economy. It argues that a key theorem in Martin Weitzman's argument rests on a dubious assumption about labor supply behavior. Once more conventional labor supply assumptions are introduced, the share economy tends to behave much like a wage economy and many of the more striking claims for the share economy seem unjustified. *J. Compar. Econ.*, Dec. 1986, 10(4), pp. 448-53. Yale University.

Rabin, Alan and Keilany, Ziad—A Note on the Incompatibility of the Pigou Effect and a Liquidity Trap

This article demonstrates that a serious inconsistency exists in the literature regarding the discussion of the liquidity trap and the Pigou effect. More specifically, the macro literature, as well as most textbooks, first assumes that the economy is in a liquidity trap and then stipulates that the Pigou effect could "rescue" the economy by increasing the demand for commodities, and, therefore, real income. However, if the economy were truly in a liquidity trap, as assumed in the literature, then a Pigou effect could not occur. For the liquidity trap precludes the presence of such an effect. *J. Post Keynesian Econ.*, Winter 1986-87, 9(2), pp. 291-96. University of Tennessee.

Rothschild, Kurt W.—Is There a Weitzman Miracle?

M. L. Weitzman has put forward a model of an economy in which the wage system is replaced by a system of profit sharing agreements. It is claimed that the unemployment problems that arise as a consequence of wage rigidity would disappear in a share economy even when the same rigidity in labor contract parameters is assumed. The first part of this paper summarizes Weitzman's ideas. In the second part his ideas are criticized on theoretical and practical grounds. In particular, Weitzman takes too narrow a view of Keynesian

unemployment, neglects the importance of certainty in pay levels, and overlooks the institutional problems of profit sharing arrangements. *J. Post Keynesian Econ.*, Winter 1986-87, 9(2), pp. 198-211. University of Linz, Austria.

Shapiro, Matthew—Capital and Saving in a Share Economy

Martin Weitzman is correct in his claim that, in long-run equilibrium, the capital stock will be identical in wage and share systems. But a corollary of Weitzman's excess demand for labor in the short run is that the firm is holding too much capital at any given moment. The reduction in demand for capital goods following a shock might create a new channel for the accelerator. A share system also exposes workers to increased capital risk. *J. Compar. Econ.*, Dec. 1986, 10(4), pp. 444-47. Yale University.

Solow, Robert M.—What Is a Nice Girl Like You Doing in a Place Like This? Macroeconomics after Fifty Years

This essay compares the state of macroeconomic theory at the origin with its condition today. It dates the beginning of macrotheory from the publication of the *General Theory* in 1936 and looks at the original state of macroeconomics through the lens of Pigou's *Employment and Equilibrium*, published four years later as a direct response to Keynes. The models underlying those two books are much more like each other than either is like the dominant macrotheory of today. The difference is traced to the diversion of the (reasonable) demand for micro-foundations into the (failed) attempt to construct macrotheory on a Walrasian basis. *Eastern Econ. J.*, July-Sept. 1986, 12(3), pp. 191-98. Massachusetts Institute of Technology.

Zabel, Edward—Price Smoothing, Inventory and Random Output

This paper considers a multi-period, random demand, random output model to examine properties of price flexibility. A major outcome is to distinguish transient and ergodic states of the system. In stationary conditions when adjustments with respect to an initial position are complete, prices lie within the control bounds of an ergodic set, the price bounds are sensitive to cost parameters and properties of probability

distributions, and price changes smooth variations in inventory caused by demand fluctuations. Considering price responses to changes in the demand structure, however, it may appear that the system responds more quickly to decreases in demand than to increases in demand. *Eastern Econ. J.*, July–Sept. 1986, 12(3), pp. 313–20. University of Florida.

024 Welfare Theory

Maital, Shlomo—Prometheus Rebound: On Welfare-Improving Constraints

Every microeconomic decision problem can be framed as the maximization of a function subject to constraints. In the language of mathematics, constraints are regarded as welfare-impairing. In reality, people willingly constrain their own choices in ingenious ways, and appear better off for doing so. This paper argues that some constraints are welfare-improving. Results from experimental and social psychology supporting this idea are cited. Ways of modeling welfare-improving constraints are explored, and credit constraints are discussed as an illustration. *Eastern Econ. J.*, July–Sept. 1986, 12(3), pp. 327–44. Technion Israel Institute of Technology, Haifa.

025 Social Choice

Stolz, Peter—Parteienwettbewerb, politisches Kartell und Tausch zwischen sozioökonomischen Gruppen. (Party Competition, Political Cartel and Exchange between Socio-economic Groups)

Party competition forms an important element of the economic theory of politics. Indeed, the author replaces the usual assumption of vote maximization with the seat-maximizing principle. Generally, the competition model can be applied to politics only if due carefulness is observed. Frontiers between differently organized governments may also imply limits to the transfer of this model. The Swiss Confederation is better characterized by the alternative model of a political cartel. Finally, while the competitive model isn't suited for each epoch, the history of a Swiss canton shows the exchange model to be comparatively unaffected by institutional change. *Schweiz. Z. Volkswirtschaft. Statist.*, Dec. 1986, 122(4), pp. 657–75 (German). Bettingen, Switzerland.

026 Economics of Uncertainty and Information; Game Theory and Bargaining Theory

Bernheim, B. Douglas and Ray, Debraj—On the Existence of Markov-Consistent Plans under Production Uncertainty

R. Strotz (1956) and R. Pollak (1968) were among the first to study the behavior of an economic agent whose preferences change over time. They suggested that such an agent would choose a "consistent plan." A Markov-consistent plan has a particularly simple structure: current decisions are independent of past decisions, except insofar as past decisions affect the current values of state variables. Unfortunately, Markov-consistent plans do not generally exist. In this paper, the authors demonstrate that the existence problem disappears for finite horizon problems when one introduces even a small amount of smooth uncertainty into production. *Rev. Econ. Stud.*, Oct. 1986, 53(5), pp. 877–82. Stanford University and National Bureau of Economic Research; Stanford University.

Binmore, Ken; Rubinstein, Ariel and Wolinsky, Asher—The Nash Bargaining Solution in Economic Modelling

This article establishes the relationship between the static axiomatic theory of bargaining and the sequential strategic approach to bargaining. The authors consider two strategic models of alternating offers. The models differ in the source of the incentive of the bargaining parties to reach agreement: the bargainers' time preference and the risk of breakdown of negotiation. Each of the models has a unique perfect equilibrium. When the motivation to reach agreement is made negligible, in each model the unique perfect equilibrium outcome approaches the Nash bargaining solution with utilities that reflect the incentive to settle and with the proper disagreement point chosen. The results provide a guide for the application of the Nash bargaining solution in economic modeling. *Rand J. Econ.*, Summer 1986, 17(2), pp. 176–88. London School of Economics; Hebrew University; Hebrew University.

Bray, Margaret M. and Savin, Nathan E.—Rational Expectations Equilibria, Learning, and Model Specification

In the rational expectations equilibrium of the generalized linear cobweb model the expected price is a linear function of an observable variable. In this paper it is assumed that agents do not know the parameter of this function and estimate it by Bayesian regression. The regression equation is misspecified outside rational expectations equilibrium because agents fail to take account of forecast feedback. Nevertheless, provided supply and demand curves intersect in the usual way, expectations are asymptotically rational. Rates of convergence and divergence and the results of standard tests for model misspecification are studied by computer simulation. *Econometrica*, Sept. 1986, 54(5), pp. 1129-60. University of Cambridge; University of Iowa.

Eisen, Roland—Wettbewerb und Regulierung in der Versicherung: Die Rolle asymmetrischer Information (Competition and Regulation in Insurance: The Role of Asymmetrical Information)

In insurance, regulation attempts to achieve two goals: (1) guaranty of continual fulfillment of commitments and (2) equal access to or improved availability of insurance. While the first can be secured by solvency regulation, the second can be attained by premium regulation, compulsory or social insurance. A simple model of a competitive insurance market with asymmetrical information is developed to show that a Nash-Cournot equilibrium may not exist. There are, however, Wilson-reaction equilibria with transfers from good to bad risks. Some qualitative characteristics of these equilibria are analyzed, and it is shown that regulation may lead to welfare improvements. *Schweiz. Z. Volkswirtschaft. Statist.*, Sept. 1986, 122(3), pp. 339-58 (German). Johann-Wolfgang-Goethe University, Frankfurt.

Forges, Françoise M.—An Approach to Communication Equilibria

The Nash equilibrium concept may be extended gradually when the rules of the game are interpreted in a wider and wider sense, so as to allow preplay or even intraplay communication. A well known extension of the Nash equilibrium is Aumann's correlated equilibrium, which depends only on the normal form

of the game. Two other solution concepts for multistage games are proposed here: the extensive-form correlated equilibrium and the communication equilibrium. The author shows that the set of payoffs associated with each solution concept has a canonical representation and is a convex polyhedron. *Econometrica*, Nov. 1986, 54(6), pp. 1375-85. CORE, Louvain, Belgium.

Hellwig, Martin—Risikoallokation in einem Marktsystem (The Allocation of Risks in the Markets)

For an economy under uncertainty, the fundamental theorems of welfare economics—and hence the principle of laissez-faire—are valid if, and only if, markets are complete. However, information asymmetries and control problems usually preclude the completeness of the market system. The paper discusses the consequences of this observation for: (1) the role of capital markets institutions such as banks in the allocation of investment funds and (2) the role of economic policy for the allocation of risk in the markets. *Schweiz. Z. Volkswirtschaft. Statist.*, Sept. 1986, 122(3), pp. 231-51 (German). University of Bonn.

Kohlberg, Elon, and Mertens, Jean-François—On the Strategic Stability of Equilibria

A basic problem in the theory of noncooperative games is the following: which Nash equilibria are strategically stable, i.e., self-enforcing, and does every game have a strategically stable equilibrium? The authors list three conditions that seem necessary for strategic stability—backward induction, iterated dominance, and invariance—and define a set-valued equilibrium concept that satisfies all three of them. It is proved that every game has at least one such equilibrium set. Also, it is shown that the departure from the usual notion of single-valued equilibrium is relatively minor, because the sets reduce to points in all generic games. *Econometrica*, Sept. 1986, 54(5), pp. 1003-37. Harvard University; CORE and Catholic University of Louvain.

Konakayama, Akira; Mitsui, Toshihide and Watanabe, Shinichi—Efficient Contracting with Reliance and a Damage Measure

This article reexamines the problem of breach of contract studied by S. Shavell (1980, 1984) and W. P. Rogerson (1984) by considering explicitly the incentive problems that arise from asymmetric information and transaction-specific investment. The authors derive the optimal contract, which consists of variable price and damage payment schemes, each of which is set before any private information is observed. It is shown that the optimal contract attains full classical efficiency. *Rand J. Econ.*, Autumn 1986, 17(3), pp. 450-57. Tokai University; University of Kansas; University of Kansas.

Middleton, Elliott—Some Testable Implications of a Preference for Subjective Novelty

A model of the response to subjective novelty represented by the Wundt curve was first informally introduced to economics by Tibor Scitovsky in 1976. Utility depends on how "new" an event is in the subject's experience: highly novel events cause anxiety; moderately novel events are pleasurable; entirely familiar events are boring. The article operationalizes "subjective novelty" for problems where it can meaningfully be described statistically, using information theory. A distinction is drawn between "informational" utility, dependent on experiential context; and "physical" utility as in the standard model. A successful empirical test is performed using a measure of consumer sentiment. *Kyklos* 1986, 39(3), pp. 397-418. Temple University.

Saari, Donald G. and Williams, Steven R.—On the Local Convergence of Economic Mechanisms

For certain informationally decentralized economic models, it is known that the associated dynamical process need not be locally stable. In this paper, the causes of the conflict between the local stability of the process and the decentralization of information are identified. This motivates a resolution for this problem. The method describes how approximate, local information about the economy can be used to modify a decentralized, dynamical procedure to achieve local stability. Explicit procedures are given for constructing the decentralized systems with which the agents communicate this approximate information. As

an illustration, this approach provides a partial response to the well known convergence problems with the tâtonnement model. *J. Econ. Theory*, Oct. 1986, 40(1), pp. 152-67. Northwestern University.

Sutton, John—Non-Cooperative Bargaining Theory: An Introduction

The paper provides an introduction to the recent literature on "noncooperative" or "sequential" bargaining models. It focuses on the relationship between the new approach and the traditional axiomatic approach exemplified by "Nash bargaining theory." It illustrates the new insights offered by the noncooperative approach, by reference to a detailed analysis of the manner in which the presence of an outside option available to one of the parties will affect the negotiated outcome. Finally, the difficulties that arise in extending this analysis to two-person bargaining with incomplete information, and to n-person bargaining, are discussed. *Rev. Econ. Stud.*, Oct. 1986, 53(5), pp. 709-24. London School of Economics.

Tversky, Amos and Kahneman, Daniel—Rational Choice and the Framing of Decisions

The rational model of expected utility theory is commonly used as a descriptive theory of choice. Its descriptive validity has been challenged by counterexamples, notably the well known Allais and Ellsberg problems. The challenges have evoked attempts at reconciliation. Several normative theories have been proposed, which weaken the rules of rationality to accommodate observed choice behavior. These approaches fail when applied to violations of the rules of invariance and dominance, which are normatively essential but descriptively invalid. Framing effects that induce violations of invariance and dominance are described. *J. Bus.*, Pt. 2, Oct. 1986, 59(4), pp. S251-78. Stanford University; University of British Columbia.

027 Economics of Centrally Planned Economies

Ickes, Barry W.—On the Economics of Taut Plans

Targets issued to enterprises in centrally planned economies are frequently taut. The literature on tautness has neglected the aggregate

effects of taut plans. Since the outputs of some enterprises are inputs to others, taut plans allow for more intensive use of available resources, but coordination of taut plans is made difficult by incomplete information about the capacity constraints of various enterprises. The author derives an aggregate relationship between the tautness of plans and total output. *J. Compar. Econ.*, Dec. 1986, 10(4), pp. 388-99. Pennsylvania State University.

030 HISTORY OF ECONOMIC THOUGHT; METHODOLOGY

031 History of Economic Thought

Angresano, James—Gunnar Myrdal as a Social Economist

Based upon the suggested criteria for identifying a social economist, Gunnar Myrdal seems to merit consideration as a member of this approach to economics. Practitioners of social economics are willing to: contribute toward establishing social goals for their society; adopt an interdisciplinary approach to economic issues; attempt to measure and explain existing social values; emphasize an inductive approach to social science; strive to convert economics into political economy; and accept the task of making recommendations for reform and policy. In addition to conforming to the social economist approach, Myrdal should be recognized as a social reformer actively proposing and implementing policy. *Rev. Soc. Econ.*, Oct. 1986, 44(2), pp. 146-58. Hampden-Sydney College, Virginia.

Ashton, Thomas Southcliffe—Recollections of Four British Economic Historians

This is the text of a lecture given at the University of Exeter in 1966 in which the late Professor Ashton recounted his memories of his relationship with four distinguished British economic historians of a past generation—Sir William Ashley, professor at Birmingham, George Unwin, professor at Manchester, John L. Hammond, journalist, and R. H. Tawney, professor at the London School of Economics. Arguing that British economic history owed much to scholars who had come from Manchester and its immediate environs, Ashton noted that two of his subjects, Ashley and Unwin, were Mancunians while the other two, Ham-

mond and Tawney, spent a good deal of their working lives in Manchester. The article provides a lively and at times amusing account of these four influential men. *Banca Naz. Lavoro Quart. Rev.*, Sept. 1986, (158), pp. 337-52.

Buchanan, James M.—Better than Plowing

This intellectual autobiography traces the development of the central ideas associated with James M. Buchanan's work, and identifies the influences that contributed to this development. Particular emphasis is placed on the influence of Frank Knight and Knut Wicksell and on the early exposure to the Italian literature in public finance theory. *Banca Naz. Lavoro Quart. Rev.*, Dec. 1986, (150), pp. 359-375. George Mason University.

Elliott, John E.—On the Possibility of Marx's Moral Critique of Capitalism

This paper assesses, and rejects, the claim that Marx did not, or could not, have a moral critique of capitalism because such a critique does not, or would not, cohere with the rest of his economic theory and social science. Four main themes are examined: (1) the view of an antinomy between fact and value versus Marx's view of their interaction; (2) Marx's sociohistorical perspective; (3) Marx's metaethical ideas on the origins of rights versus his evaluative critique; and (4) "moral theory" versus "moral critique" in Marx's study of capitalism. *Rev. Soc. Econ.*, Oct. 1986, 44(2), pp. 130-45. University of Southern California, Los Angeles.

Fatton, Robert, Jr.—Hegel and the Riddle of Poverty: The Limits of Bourgeois Political Economy

This article argues that G. W. F. Hegel's analysis of civil society demonstrated a clear awareness of the antinomies of wealth and poverty generated by capitalism. Hegel was therefore neither an apologist for nor an ideologist of the emerging capitalist order. He failed, however, to solve these antinomies of wealth and poverty because he was a bourgeois political economist. His analysis did not go beyond the confining limits of capitalism and consequently his philosophy lost its critical and dialectical substance. The article also contends that He-

gel's theory of the state is neither totalitarian nor democratic, but rather a call for the concentrated power of the propertied classes in an age when capitalist civilization had yet to establish its full hegemony. *Hist. Polit. Econ.*, Winter 1986, 18(4), pp. 579-600. University of Virginia.

Leathers, Charles G.—Bellamy and Veblen's "Christian Morals"

This paper suggests that Thorstein Veblen's concept of "Christian morals" may have been inspired by the treatment of religion in Edward Bellamy's utopian novels. Differences do exist between Veblen's and Bellamy's views on the spiritual aspects of religion. But in sociological terms, Veblen's vision of a natural Christianity of brotherly love suggests Bellamy's "religion of solidarity" modified to comport with Veblen's instinct theory. *J. Econ. Issues*, Dec. 1986, 20(4), pp. 1107-19. University of Alabama.

Maes, Ivo—Did the Keynesian Revolution Retard the Development of Portfolio Theory?

The claim is advanced that John Hicks's article "A Suggestion for Simplifying the Theory of Money," published in *Economica* (February 1935), can be considered as a prefiguration of modern macroeconomic portfolio theory. But James Tobin's main contributions date from the mid 1950s onward. How to explain this twenty year gap in the development of portfolio theory? With the rise of the Keynesian revolution, attention became concentrated on the real sector of the economy. The financial and monetary sector did not receive so much attention any more. This is illustrated by a short history of the development of Hicks's thinking on macroeconomic and monetary theory from the mid-1930s till the 1950s. *Banca Naz. Lavoro Quart. Rev.*, Dec. 1986, (159), pp. 407-21. National Bank of Belgium, Brussels.

McFarland, Floyd B.—Clarence Ayres and His Gospel of Technology

Clarence Ayres purported to be a follower of Thorstein Veblen, but his central ideas are antithetical to Veblen's. Veblen saw institutions as a connector between sufficient reason and efficient cause and was neither totally Materialist nor Idealist. Ayres was "completely material-

ist," a technological determinist, and wrote an article entitled "The Gospel of Technology." Technology was all productive factors, institutions were only inhibitors of production. This nonfalsifiable tautology assigned Institutionalists the passive role of suggesting marginal institutional changes. Regarding technology as determinative of social change, Ayres was neither radical nor actively reformist, merely an observer of inexorable progress. *Hist. Polit. Econ.*, Winter 1986, 18(4), pp. 617-37. Oregon State University.

Moss, Laurence S. and Vaughn, Karen L.—Hayek's Ricardo Effect: A Second Look

This article examines a long-standing controversy in economic thought: the debate over Friedrich A. Hayek's Ricardo Effect. The authors conclude that when defending the thesis that government-managed booms (nearly always) end in crisis, Hayek explored a novel methodological approach. Much was made of the logical consistency of Hayek's mechanism when examined through the lens of comparative statics. Hayek insisted on a market process account of the transition between equilibria and this was not understood. The Keynesian emphasis on balancing flows of expenditure at alternative levels of income did little to encourage interest in Hayek's approach. *Hist. Polit. Econ.*, Winter 1986, 18(4), pp. 545-65. Babson College; George Mason University.

Negishi, Takashi—Thornton's Criticism of Equilibrium Theory and Mill

Why J. S. Mill, who recanted wages fund doctrine in his review (1869) of William T. Thornton's *On Labour* (1869), did not change his previous view in his 1871 edition of *Principles* is partly explained by the fact that Mill interpreted Thornton's example of fish auctions wrongly that the equilibrium is not unique. Admitting the possibility of the similar indeterminacy in labor market, Mill recanted the doctrine. Thornton pointed out in 1970, however, that the equilibrium is unique but exchange transactions are carried out at disequilibrium. It was impossible, then, for Mill to follow Thornton to repudiate the equilibrium theory itself. *Hist. Polit. Econ.*, Winter 1986, 18(4), pp. 567-77. University of Tokyo.

O'Driscoll, Gerald P., Jr.—Money: Menger's Evolutionary Theory

Carl Menger offered an invisible-hand explanation of the development of money and monetary institutions. Recent work on the micro-foundations of monetary theory heightens the relevance of his microeconomic analysis of money. The recent work has only begun, however, to incorporate some of Menger's insights. Less well known than his methodological writings, Menger's analysis of the origins of money constitutes a fundamental economic contribution. Menger's approach is contrasted with that of the legal restrictions theory of money, which views major features of modern monetary systems as the outcome of governmental intervention. *Hist. Polit. Econ.*, Winter 1986, 18(4), pp. 601-16. Federal Reserve Bank of Dallas.

Ramstad, Yngve—A Pragmatist's Quest for Holistic Knowledge: The Scientific Methodology of John R. Commons

This paper establishes that John R. Commons developed and communicated his "institutional economics" in strict conformity with the methodological precepts of "holism." Through textual analysis, it is shown that Commons's conception of reality, the procedures he employed to develop and test his theories, and the process through which he conveyed the structure of those theories all adhered consistently to holistic precepts. Thus, it is argued that the usual assessment of Commons's work as methodologically incoherent is wrong. Nonetheless, it is shown that Commons's holistic mode of "explanation" serves as a formidable barrier to rapid comprehension of his theoretical writings. *J. Econ. Issues*, Dec. 1986, 20(4), pp. 1067-1105. University of Rhode Island.

Rima, Ingrid H.—The Peculiarities of Labor Markets and the Residuum

The link between Alfred Marshall's concern about poverty and the Residuum and his analysis of labor market peculiarities is a neglected thread in the development of his work. The change in his treatment of the poverty problem that evidences itself after 1885 is interpreted in the context of Marshall's increased awareness of the necessity for finding new techniques of knowledge acquisition. In particular, he recog-

nized the limitations of transferring the rigorous analytical tools of Book V to things that lie beyond the grasp of the static method. Although, Marshall was prone to address them in moral terms, it is essential that his own caveat be recognized in extending his "engine of analysis" to the study of questions relating to the problem of distribution. *Eastern Econ. J.*, Apr.-June 1986, 12(2), pp. 158-74. Temple University.

Street, Donald R.—The Authorship of Campomanes' *Discurso sobre el fomento de la industria popular*: A Note

This paper argues that the essential content of Count Campomanes's book appeared in a previous book, *Discurso sobre el modo de fomentar la industria popular*, by Manuel Rubín de Celis (1774). The book was important because of its anticipation of Adam Smith on several points. Time sequencing, choice of printer, translation backgrounds, and writing style of the authors support Rubín as the true author. Recognition of Rubín as the author brings him to the top rank of eighteenth-century Spanish economists. *Hist. Polit. Econ.*, Winter 1986, 18(4), pp. 655-60. Auburn University.

Williams, Philip L.—A Reconstruction of Marshall's Temporary Equilibrium Pricing Model

Alfred Marshall's discussions of the market period in corn and fish markets illustrate the equilibrium, stability and determinacy of a pure-exchange model. However, a more formal statement of the model exposes two inconsistencies. First, the day is treated both as a point in time and as a real period within which significant action occurs. Second, the discussion of determinacy assumes that supply is merely negative excess demand, which is inconsistent with the asymmetry of demand and supply in the analysis of equilibrium and stability. Maintenance of the assumption of asymmetry will, as stated by P. H. Wicksteed, cause indeterminacy. *Hist. Polit. Econ.*, Winter 1986, 18(4), pp. 639-53. University of Melbourne.

936 Economic Methodology

Dopfer, Kurt—The Historiomic Approach to Economics: Beyond Pure Theory and Pure Experience

An initial distinction is made between logico-deductive and "empirico"-deductive approaches to economic theory. The logico-deductive approach, uses an axiomatic framework that has little empirical substance. The empirico-deductive approach, states economic theory in terms of a "typical" structure of reality. Both approaches operate within the basic assumption of classical physics that theory must represent an invariant structure of reality—highlighting here economic phenomena that do not change over time. The paper favors instead a "historical" approach that stresses the importance of making theoretical (-nomic) statements about economic phenomena that are basically historical (histo-) in their nonclassical properties of variancy and time-asymmetry. *J. Econ. Issues*, Dec. 1986, 20(4), pp. 989–1010. University of St. Gallen, Switzerland.

Hirsch, Abraham—Caldwell on Praxeology and Its Critics: A Reappraisal

Bruce J. Caldwell's use of the distinction between internal and external criticism is questioned and it is argued that recent developments in the philosophy of science leave unscathed the criticisms of the methodology of Ludwig von Mises, which Caldwell considered in his article. The heart of the matter is the position of Mises that neither the premises nor the predictions of economic theory can be or need be tested. From this derives the criticism that praxeology is incomprehensible, dogmatic, and unscientific, criticism which Caldwell fails to refute. *Hist. Polit. Econ.*, Winter 1986, 18(4), pp. 661–68. Brooklyn College.

Hodgson, Geoff—Behind Methodological Individualism

While many economists claim to be guided by methodological individualism, consistency and clarity in the use of the term is lacking. Key statements of the doctrine suggest the primacy of individual purposefulness, combined with a failure or refusal to give an adequate account of the formation of purpose itself. It is argued that this position is analytically unacceptable, and from which it appears that the methodological individualist has no satisfactory and consistent line of retreat. The espousal of methodological individualism and other related

doctrines by economists should thus be challenged. *Cambridge J. Econ.*, Sept. 1986, 10(3), pp. 211–24. Newcastle-upon-Tyne Polytechnic.

Rotwein, Eugene—Flirting with Apriorism: Caldwell on Mises

This article presents a criticism of the treatment of Ludwig von Mises's apriorism by Bruce Caldwell in his "Praxeology and Its Critics: An Appraisal" (*History of Political Economy*, Vol. 16, no. 3, 1984, pp. 363–80.) It argues that, although Caldwell attempts to give a more balanced evaluation of Mises's apriorism than is found in the views of its critics, his article does not afford any support for Mises's position or weaken the case against it and, moreover, his defense of Mises is inconsistent with his own recognition of the importance of empirical tests of generalizations concerning the relations between matters of fact. *Hist. Polit. Econ.*, Winter 1986, 18(4), pp. 669–73. Queens College, City University of New York.

040 ECONOMIC HISTORY

042 Economic History: United States and Canada

Altman, Morris—Resource Endowments and Location Theory in Economic History: A Case Study of Quebec and Ontario at the Turn of the Twentieth Century

The hypothesis that a region's or nation's lag-gard industrial development can be explained by its relatively more expensive supplies of coal and iron ore is challenged here. A simple model, based on location theory, is developed. Using this model, the author demonstrates the conditions under which this hypothesis holds. A case study of Quebec and Ontario industry suggests that the differential resource cost hypothesis seriously lacks explanatory power. *J. Econ. Hist.*, Dec. 1986, 46(4), pp. 999–1009. University of Ottawa.

Carlos, Ann M. and Hoffman, Elizabeth—The North American Fur Trade: Bargaining to a Joint Maximum under Incomplete Information, 1804–1821

The authors examine bargaining between the Northwest Company and the Hudson's Bay Company using recent models of bargaining under incomplete information. Two previously undisturbed bodies of correspondence are ana-

lyzed: letters between the two companies and letters between the Hudson's Bay Company and its London committee. Through merger the companies achieved a joint maximum, but the lengthy and costly bargaining process dissipated much of the potential gain through depletion of animal stocks. Achievement of a joint maximum was hindered by incomplete information, commitment to a strategy that led to bargaining breakdowns, delineation of each party's rights under laws, and environmental changes. *J. Econ. Hist.*, Dec. 1986, 46(4), pp. 967-86. Huron College, Ontario; University of Wyoming.

Fishback, Price V.—Did Coal Miners "Owe Their Souls to the Company Store"? Theory and Evidence from the Early 1900s

Although coal companies may have tried to exploit a local-store monopoly, company store prices in nonunion areas were appreciably limited by competition from other stores and mines in the same labor market. Company stores persisted in part by lowering transactions costs. Prices at company stores were generally similar to those at nearby independent stores, and higher wages may have compensated for higher store prices at isolated mines. Conditions varied, however, with labor market tightness. Miners were generally not in debt to the store, nor paid entirely in scrip. Scrip was an advance on payday, when miners received cash. *J. Econ. Hist.*, Dec. 1986, 46(4), pp. 1011-29. University of Georgia.

Roback, Jennifer—The Political Economy of Segregation: The Case of Segregated Streetcars

The introduction of segregation laws for municipal streetcars is examined. The economics of private and public segregation is analyzed first, taking note of the particular features of the streetcar industry, followed by a discussion of the contemporary debates on streetcar segregation laws in a number of southern cities. The evidence presented suggests that segregation laws were binding constraints and not simply the codification of customary practice. Furthermore, the streetcar companies were not the initiators of segregation and sometimes actively resisted it. These findings are related to several

major interpretations of the origins of segregation. *J. Econ. Hist.*, Dec. 1986, 46(4), pp. 893-917. George Mason University.

043 Economic History: Ancient and Medieval (until 1453)

Stacey, Robert C.—Agricultural Investment and the Management of the Royal Demesne Manors, 1236-1240

Between 1236 and 1240 the king's estate steward Walter de Burgo improved the productivity of about forty royal manors by systematically increasing agricultural investment to levels four to five times the medieval average. On estates where he managed the inland directly, de Burgo improved the quality of the draft animals and spent large sums on marling, smother crops, and on the purchase of foreign seed. Within four years he raised the net value of these manors 70 percent, thus demonstrating the direct link that could exist between investment levels and productivity in medieval agriculture. *J. Econ. Hist.*, Dec. 1986, 46(4), pp. 919-34. Yale University.

044 Economic History: Europe

Huberman, Michael—Invisible Handshakes in Lancashire: Cotton Spinning in the First Half of the Nineteenth Century

In Lancashire cotton spinning in the heyday of laissez-faire capitalism, the labor market did not operate as an auction market. Evidence on piece-rate flexibility, length of tenure, and seniority is consistent with Arthur M. Okun's contract approach. Both workers and firms incurred initial set-up costs. Workers wanted to protect their initial investments in training, and firms, faced with a labor supply that varied in reliability and regularity, had a desire to cover initial hiring and tryout costs. The need to maintain long-term attachments had implications for wage and employment adjustment and the age structure of the labor force. *J. Econ. Hist.*, Dec. 1986, 46(4), pp. 987-98. Trent University, Ontario.

Hunt, E. H.—Industrialization and Regional Inequality: Wages in Britain, 1760-1914

This paper describes the geographical pattern of wages in Britain between 1760 and 1914. It then draws out some of the implications of the

wages pattern and considers, in particular, the implications for the "growth pole" debate on the likely effect of industrialization upon regional income inequalities. The market forces responsible for creating and maintaining these differentials are then described, followed by a final section that discusses the significance of changing regional wage differentials to the standard-of-living debate. It concludes that from a regional perspective the overall effects of industrialization upon living standards are indisputably favorable. *J. Econ. Hist.*, Dec. 1986, 46(4), pp. 935-66. London School of Economics

080 ECONOMIC SYSTEMS

081 Capitalist Economic Systems

Deans, Robert H.—Macroeconomic Conflicts and Economic and Social Policies

The conflicts of traditional economic and social policies in terms of income and employment goals are creating a crisis in the promotion of the welfare state in OECD countries. Emergence of a coherent policy requires a further look at the social contract option of incomes policy. Major discussion of Martin L. Weitzman's share economy and Steven Plaut's reverse incomes policy are presented as possible avenues to pursue in promoting a solution to the stagflation climate found in many OECD countries. *Rev. Soc. Econ.*, Oct. 1986, 44(2), pp. 113-29. Temple University.

Mehrling, Perry G.—A Classical Model of the Class Struggle: A Game-Theoretic Approach

The class struggle is formalized as a differential game in a strictly supply-side model, an approach that synthesizes the models of Kelvin Lancaster and Richard M. Goodwin. Four different steady-state equilibria are derived, each corresponding to different assumptions about the degree to which each class is organized to promote its own interests. In particular, the Goodwin growth cycle is shown to emerge from a world characterized by unorganized capitalists and workers, in which individuals ignore the effects of their own actions on economywide variables. More relevant for discussion of modern capitalism are the hierarchical equilibria, especially the codetermination equilibrium in which the existence of a full-employment-equilibrium turns out to be problematic. *J. Polit.*

Econ., Dec. 1986, 94(6), pp. 1280-1303. Harvard University.

Nordhaus, William D.—Introduction to the Share Economy

This paper introduces the major ideas in Martin Weitzman's "The Share Economy." It notes that a "share" economy is one in which the marginal cost of labor is less than the average cost of labor; moreover, this condition can be induced by sharing revenues of profits. According to share theory, such contracts will lead firms to create more vacancies and thereby lower the average unemployment rate. Weitzman proposes to induce more share arrangements by giving a tax preference to share-type income. *J. Compar. Econ.*, Dec. 1986, 10(4), pp. 416-20. Yale University.

100 Economic Growth; Development; Planning; Fluctuations

110 ECONOMIC GROWTH; DEVELOPMENT; AND PLANNING THEORY AND POLICY

111 Economic Growth Theory and Models

Asimakopulos, Athanasios—Harrod and Domar on Dynamic Economics

There are important differences in the dynamic, Keynesian analyses of Roy Harrod and Evsey Domar. Harrod's is the more general model, with its focus on entrepreneurial equilibrium rates of growth allowing both for consideration of conditions consistent with a steady advance and the changing equilibrium rates of growth over the trade cycle. His instability principle follows naturally from this concern with entrepreneurial responses. Domar's analysis concentrates on the calculation of the rate of growth of investment that would result in the full employment of labor, and it assumes constancy of parameter values over long intervals of time. *Banca Naz. Lavoro Quart. Rev.*, Sept. 1986, (158), pp. 275-86. McGill University.

Boldrin, Michele and Montuochio, Luigi—On the Indeterminacy of Capital Accumulation Paths

In neoclassical optimal growth models the stability of the accumulation paths depends on

the discount parameter. The authors prove that, for discount factors small enough, the policy function that describes an optimal path can be of any type. The result is achieved by using the notion of α -concavity. A constructive approach is adopted. Given any twice differentiable map it is shown how to construct an optimal growth problem that produces that map as the optimal policy function. A consequence is that "chaos" can appear in these models. Bounds on the values of the discount parameter for which "indeterminacy" is possible is also provided. *J. Econ. Theory*, Oct. 1986, 40(1), pp. 26-39. University of Rochester; Polytechnic of Turin, Italy.

Deneckere, Raymond J. and Pelikan, Steve—Competitive Chaos

What kinds of dynamic behavior can optimal trajectories in deterministic growth models display? This paper presents examples of economies that have stable equilibrium cycles in consumption, capital, and prices of arbitrary period, as well as of economies that have chaotic equilibrium paths. Some necessary and sufficient conditions for these phenomena to occur are discussed. *J. Econ. Theory*, Oct. 1986, 40(1), pp. 13-25. Northwestern University; University of Cincinnati.

Elbers, C. and Weddepohl, H. N.—Steady State Equilibria with Saving for Retirement in a Continuous Time Overlapping Generations Model

This paper studies some simple stationary growth models with continuously overlapping generations, i.e., where consumers are born and die at each moment of time. Two behavioral rules for saving are proposed: (1) a pension scheme where working consumers pay a uniform premium to a pension fund and receive a uniform pension after retirement and (2) the familiar life-cycle model of individual optimization where consumers save (and possibly also dissave, temporarily) during their active period, and dissave after retirement. *J. Econ. (Z. Nationalök.)*, 1986, 46(3), pp. 253-82. University of Amsterdam; Free University, Amsterdam.

Goodwin, Richard M.—Swinging along the Turnpike with von Neumann and Sraffa

John von Neumann discovered the theory of the turnpike, using a constant technology and an infinite supply of labor at a constant real wage. Piero Sraffa demonstrated that for a given state of the economy, there could be a real wage ranging from subsistence to total net product. This essay combines these two disparate concepts in a dynamic setting whereby growth and profit rate are first too high and then too low, averaging out to a long-run constant rate with an average real wage that produces a growth rate equal to the combined effects of growth in labor productivity and in labor force, with a dynamical equilibrium, average rate of unemployment. *Cambridge J. Econ.*, Sept. 1986, 10(3), pp. 203-10. University of Siena.

112 Economic Development Models and Theories

Perrings, Charles—Income Redistribution and Labour Surplus in the Classical Theory of Labour Migration

The results of the Lewis model of the labor-surplus economy depend upon the assumption that there exists a perfectly elastic supply of labor at an institutionally determined real wage. Historical research has shown that the excess supply of labor from the noncapitalist sector in such economies is the outcome of state intervention designed to facilitate high rates of growth in the capitalist sector. This paper examines the link between state intervention in the distribution of income and the existence of a labor surplus in the noncapitalist sector of an integrated "dualistic" economy. *Manchester Sch. Econ. Soc. Stud.*, Sept. 1986, 54(3), pp. 283-97. University of Auckland, New Zealand.

114 Economics of War, Defense, and Disarmament

Ball, Nicole—Converting the Workforce: Defence Industry Conversion in the Industrialised Countries

Developments in the economics of weapons production have reduced the number of workers that can be profitably employed in the defence industry, creating a need for conversion to the civil sector independently of progress made in arms control negotiations. The author analyzes the situation in respect of the industries and occupations that are most dependent on defense contracting, and discusses the prob-

lems that different groups of defence industry employees encounter in transferring to the civil sector. It is suggested that advance planning, the availability of government programs such as retraining schemes, and flexibility on the part of employees and management are crucial for making these transfers as smooth as possible. *Int. Lab. Rev.*, July-Aug. 1986, 125(4), pp. 401-22. Swedish Institute of International Affairs.

Royer, Jacques—The Long-term Employment Impact of Disarmament Policies: Some Findings from an Econometric Model

This article examines the possible linkages between disarmament and development policies and their impact on employment. Assuming that significant cutbacks in defense expenditures would adversely affect employment, it argues that, in the long run, an effective way of enabling market forces to generate additional jobs in arms-producing sectors would be to use part of the released funds to finance specific development programs in the South. The employment impact of such massive transfers (both the direct effect in the South and the feedback to the North), however, is shown to be sensitive to the distribution policies governing the use of the funds both between receiving regions and, within regions, between low- and high-productivity activities. A world model is used to quantify several alternative sets of policies in eleven interdependent regions. *Int. Lab. Rev.*, May-June 1986, 125(3), pp. 279-303. University of Geneva.

120 COUNTRY STUDIES

121 Economic Studies of Developing Countries

Shackleton, J. R.—Privatising the Third World.

In recent years many third world countries have adopted policies of privatization and deregulation. The author examines the economic and political background to the development of state involvement in the third world and points to the problems that have led to a retreat from statist policies. He then discusses the prospects for privatization, arguing that the trend back toward the market offers some modest hope for economic improvement in the third world in the next decade. However, he is cau-

tious against treating privatization as a panacea. *Banca Naz. Lavoro Quart. Rev.*, Dec. 1986, (159), pp. 429-39. Polytechnic of Central London.

Zehender, Wolfgang—Industrialisierung und regionale Kooperation in Schwarzafrika (Industrialization and Regional Cooperation in Sub-Saharan Africa)

The failure of industrialization efforts in Africa is attributed primarily to inappropriate promotion policies, the absence of the socioeconomic and technological-scientific environment, and the smallness of national markets. Regional economic communities have not achieved the goal of developing a regional industrial base because of lack of industrial differentiation, adequate infrastructure, commensurate compensation mechanisms, and strong political will. It is argued that the potential for regional cooperation lies more in the SADCC pattern: implementation of common projects and programs and giving priority to national policies. The industrialization potential of the smaller African countries lies in the development of domestic markets and the improvement of the purchasing power in rural areas. *Konjunkturpolitik*, 1986, 32(4), pp. 218-35 (German). German Development Institute, Berlin.

122 Economic Studies of Developed Countries

Giovannetti, Giorgia and Siniscalco, Domenico—Structural Change, Foreign Trade and Income Multipliers in the Italian Economy

This paper presents a macroeconomic framework to reconsider some consequences of the growing international integration of the Italian productive system. The model, through a specific import function, combines two different approaches: the comparison of income multipliers over time, and the input-output analyses of the "sources of growth." Given an increase in the i/o coefficients linking intermediate and final imports to the different components of expenditure, the model allows to determine the growth in the export share, which offsets the decline in the multipliers and ensures the flow of proceeds to pay for the import required in the whole system. *Banca Naz. Lavoro Quart. Rev.*, Sept. 1986, (158), pp. 319-35. University of Rome, La Sapienza; University of Turin.

Gross, F. H.—How Bad Is Australia's Economic Performance and Why?

Practically the whole of Australia's slide down the income-per-head totem pole occurred before 1973. The paper advances the argument that "made to measure" protection and widespread restrictive trade practices used to be one of the main factors retarding faster growth in Australia before the 1970s, though deteriorating terms of trade also have been important. The profit squeeze resulting from real wage inflexibility during the 1970s has probably played an important role since then. *Econ. Rec.*, June 1986, 63(177), pp. 180-93. Australian National University.

Rothschild, Kurt W.—'Left' and 'Right' in 'Federal Europe'

The article analyzes the connection between political composition of governments and economic outcomes (growth, unemployment, inflation). Twelve European nations are investigated over the period 1960-84. Countries are grouped year after year in "left" and "right" subgroups and the group performances are compared. While there are no distinctive differences in the years of full employment the pictures change after 1970. The left group exhibits consistently higher growth and lower unemployment rates than the right group. As far as inflation is concerned, there is an indication that coalitions have generally fared better than either "pure" left or "pure" right governments. *Kyklos*, 1986, 39(3), pp. 359-76. University of Linz.

124 Economic Studies of Centrally Planned Economies

Wong, Christine P. W.—The Economics of Shortage and Problems in Chinese Industry

This paper employs the economics of shortage framework to examine post-Mao reforms in Chinese state-owned industry. Performance has been disappointing because reforms through 1985 failed to fundamentally alter economic agent behavior. The "soft" budget constraints at the enterprise and local government levels continue to generate "quantity" and "expansion" drives. The resultant inflationary pressures have necessitated administrative interventions and thwarted reform progress. The

Maoist legacy of active participation by local governments in economic management is highlighted as a major obstacle to the elimination of paternalism in state-enterprise relations. *J. Compar. Econ.*, Dec. 1986, 10(4), pp. 363-87. Crown College, University of California, Santa Cruz.

130 ECONOMIC FLUCTUATIONS; FORECASTING; STABILIZATION; AND INFLATION

131 Economic Fluctuations

Farmer, Roger E. A.—Deficits and Cycles

This paper shows that periodic equilibria may arise in a simple overlapping generations model with capital. If the government follows a policy of fixing the value of the deficit, rather than fixing the value of government debt, then the difference equation that describes competitive equilibria may possess complex roots in the neighborhood of the golden rule stationary state. One may show that if there exist parametric families of economies for which these roots change stability then, locally, there exists an invariant closed curve. The paper provides two simple examples that generate such equilibria, and it solves these examples numerically. *J. Econ. Theory*, Oct. 1986, 40(1), pp. 77-88. University of Pennsylvania.

Fitoussi, J.-P. and Phelps, E. S.—Causes of the 1980s Slump in Europe

The paper criticizes existing explanations of the recent slump in Europe and sets forth the theory that a major role has been played through unnoticed channels by American shocks arising in the early 1980s: the shift to tight money, the Reagan tax cut, and the investment tax inducements. The authors argue that these shocks, operating principally through the real interest rate, had impacts upon price mark ups, upon the relative price of investment goods output, and upon investments in capital and hoarded labor in Europe; and these impacts led, in turn, to a contraction of European output and employment. *Brookings Pap. Econ. Act.*, 1986 (2), pp. 487-513. University of Paris; Columbia University.

Gebauer, Wolfgang—Kondratieff's Long Waves

The paper focuses on N. D. Kondratieff's long-wave hypothesis by providing further evidence, followed by an evaluation of recent theoretical work and some tentative policy conclusions. New data for selected European countries are analyzed with Kondratieff's original methods. The results are ambiguous; the existence of long waves remains an unresolved issue. The innovation hypothesis and distribution theorem are evaluated in view of their consistency with the alleged empirical characteristics of long waves. Both show weaknesses; the innovation approach is superior in terms of its cyclical properties. An extension of policy time horizons is suggested to cope with Kondratieff-like perspectives. *Konjunkturpolitik*, 1986, 32(4), pp. 235-55. European University, Florence.

Goodwin, Richard M.—The Economy as an Evolutionary Pulsator

The problem of long waves is formalized as one of the dynamical coupling of a relatively steady flow of new techniques and goods along with the endemic tendency of capitalism to evolve in a cyclical fashion. This implies a strong exogenous influence, which renders any precise periodicity unlikely. The model is illustrated by a hypothetical, historically determined potential that controls the path in time of the economy. *J. Econ. Behav. Organ.*, Dec. 1986, 7(4), pp. 341-49. University of Siena.

Grandmont, Jean-Michel—Stabilizing Competitive Business Cycles

The author studies how stylized monetary (proportional money transfers), fiscal (lump sum money transfers), and public expenditure policies may eliminate endogenous deterministic cycles and stationary Markov sunspot equilibria in a simple version of the overlapping generations model. Also new, constructive methods for analyzing stationary Markov sunspot equilibria in such a framework are presented. *J. Econ. Theory*, Oct. 1986, 40(1), pp. 57-76. CEPREMAP, Paris.

Grandmont, Jean-Michel and Laroque, Guy—Stability of Cycles and Expectations

The actual dynamics of an economy depends on how agents forecast the future at every date

as a function of their information on the past, while possibly learning the structure of their environment. The authors show in the case of a one dimensional state variable that under mild conditions on expectations functions, a given cycle with perfect foresight that is stable in the actual dynamics is stable in a fictitious backward perfect foresight dynamics. A restricted class of expectations functions for which the converse is true is exhibited. *J. Econ. Theory*, Oct. 1986, 40(1), pp. 138-51. CEPREMAP, Paris; INSEE, Paris.

Hall, Robert E.—Market Structure and Macroeconomic Fluctuations

Market structure and macroeconomic fluctuations are related to each other in two different ways. First, fluctuations reveal a good deal about market structure. When output rises, costs rise as well, and the ratio of the two reveals marginal cost. The comparison of price to marginal cost is a measure of market power. Second, market structure has an important role in the propagation of macroeconomic shocks. Competitive markets have a strong tendency toward full utilization of capacity, but that tendency is weak or absent with market power. The paper presents evidence about market power in about fifty industries and explores the implications for macroeconomics. *Brookings Pap. Econ. Act.*, 1986, (2), pp. 285-322. Stanford University and National Bureau of Economic Research.

Hillinger, Claude—Theorie und Empirie der Konjunkturzyklen (Business Cycles—Theory and Empirical Results)

A quantitative model incorporating insights of the traditional business cycle theory is presented. In an application to the Federal Republic of Germany, the existence of a 3.8 year inventory cycle and an 8.2 year equipment cycle are demonstrated. Together these cycles explain 72 percent of the cyclical fluctuations of the GDP. Comparable results for ten OECD countries are summarized. These results suggest the need for a revision of contemporary macroeconomics. A theory of business cycles that is compatible with the evidence is sketched in the paper. *Konjunkturpolitik*, 1986, 32(3), pp. 101-29 (German). University of Munich.

McGavin, Brian H.—The Political Business Cycle: A Reexamination of Some Empirical Evidence

The political business cycle usually is accepted as a stylized fact of democratic industrial countries. Several papers, however, have brought the existence of the political business cycle into question. Perhaps the most prominent and widely cited is B. McCallum. McCallum theorizes that the political business cycle is inconsistent with rational expectations *cum* natural rate hypothesis. His evidence supports his conjecture. This paper investigates the effects of changing several features of McCallum's methodology. The results indicate that inferences from these tests regarding the political business cycle are sensitive to the underlying assumptions. Inferences based on McCallum's work are tenuous. *Quart. J. Bus. Econ.*, Winter 1987, 26(1), pp. 36-49. Florida State University.

Michlin, Pietro—Equilibrium Cycles in an Overlapping Generations Economy with Production

Perfect foresight equilibrium trajectories of an overlapping generations model with production may include stable or unstable invariant closed curves. These orbits are detected using the Hopf bifurcation theorem, where the parameter of bifurcation is purely technological. The paper also proves that there is a stabilization policy that completely eliminates the cycle. Finally, using a C.E.S. production function, it is shown that the range of values of the elasticity of substitution between capital and labor for which cycles may exist is bounded above. *J. Econ. Theory*, Oct. 1986, 40(1), pp. 89-102. Columbia University.

Neuffer, Andrei—Implementation Cycles

The paper describes an artificial economy in which firms in different sectors make inventions at different times, but innovate simultaneously take advantage of high aggregate demand. Then, high demand results from simultaneous innovation in many sectors. The economy exhibits multiple cyclical equilibria, with entrepreneurs' expectations determining which equilibrium obtains. These equilibria are Pareto ranked, and the most profitable equilibrium

need not be the most efficient. While an informed stabilization policy can sometimes raise welfare, if large booms are necessary to cover fixed costs of innovation, stabilization policy can stop all technological progress. *J. Polit. Econ.*, Dec. 1986, 94(6), pp. 1163-90. Princeton University.

Woodford, Michael—Stationary Sunspot Equilibria in a Finance Constrained Economy

Stationary sunspot equilibria are shown to exist in a production economy with infinite lived agents, when it is not possible to borrow against future wage income. Equilibrium fluctuations exhibit persistence over time scales of the same order of magnitude as observed "business cycles." An active fiscal policy that stabilizes aggregate money expenditures can prevent such fluctuations. *J. Econ. Theory*, Oct. 1986, 40(1), pp. 128-37. Columbia University and Carnegie-Mellon University.

132 Forecasting; Econometric Models

Virén, Matti—Estimating the Output Effects of Energy Price and Real Interest Rate Shocks: A Cross-Country Study

This paper is concerned with investigating how inflation, interest rate, and energy price shocks affect the real side of the economy. Estimating a simple aggregate demand model from the data of ten Western countries shows that the behavior of aggregate output is very much affected by these shocks. In particular, it turns out that real interest rate shocks represent a major source of variability in terms of the growth rate of total output. *Schweiz. Z. Volkswirtschaft. Statist.*, Dec. 1986, 122(4), pp. 627-39. Bank of Finland, Helsinki.

133 General Outlook and Stabilization Theories and Policies

Borio, C. E. V.—Do Contingent Rules Really Dominate Fixed Rules?

In this paper the author examines the generality of the proposition (Willem Buiter [1981]) that innovation-contingent (or feedback or closed-loop) policies are always superior to non-innovation-contingent (or fixed or open-loop) policies in the design of stabilization programmes unless: (1) they arbitrarily increase the randomness of current and future policy

instruments or (2) the authorities either pursue the wrong objectives or else pursue the right objectives in an inept manner. What is at stake here is the general presumption that acting on more information is necessarily beneficial to the economic agent. *Econ. J.*, Dec. 1986, 96(384), pp. 1000-1010. Brasenose College, Oxford University.

Calmfors, Lars and Horn, Henrik—Employment Policies and Centralized Wage-Setting

The combination of stagflation and rapid expansion of the public sector has been characteristic for the smaller European economies with centralized wage setting. One interpretation is that active employment policies have contributed to excessive real wage increases. The paper sets up a model of centralized wage setting that is used to examine this hypothesis under different assumptions about: (1) government employment goals; (2) trade union perceptions; and (3) the ways that government expenditures are financed. It is shown that employment policies may actually reduce employment at the same time as they cause a structural transformation of the economy. *Economica*, Aug. 1986, 53(211), pp. 281-302. University of Stockholm.

Masera, Rainer S.—Europe's Economic Problems in an International Perspective

European problems must be assessed in a world context. Medium-term external-payments compatibility requires reciprocal adjustment of policy mixes. A reduction in the U.S. budget deficit is necessary; devaluation alone will not produce the required changes in relative prices or a permanent shift between production and absorption. But the adjustment must not involve recessionary consequences globally. The European countries that have achieved structural budget equilibrium and very low inflation should discontinue their restrictive fiscal and monetary mixes. Microeconomic labor market adjustment is the appropriate complement throughout Europe to improve internal and external balance and reabsorb unemployment. *Banca Naz. Lavoro Quart. Rev.*, Dec. 1986, (159), pp. 391-406. Bank of Italy, Rome.

Neale, Walter C.—Tax-Based Incomes Policies: A Commentary for the Future

TIP will be needed when full employment returns. Discusses earlier literature: TIP's attack on inflation at micro and macro levels simultaneously; probable effectiveness of variants of TIP; confusions about role of productivity in justifying wage increases. Then analyzes newly arising problems: whether to penalize wage rates or total wages and salaries; consequent changes in nature and aims of unions, which will need to bargain about overtime, differentials, and "right to the job" rather than wages; and questions about defining profits and how to treat companies that earn no profits. Concludes with argument for levying stiff penalties on net value added. *J. Econ. Issues*, Dec. 1986, 20(4), pp. 969-87. University of Tennessee.

Neck, Reinhard—Kann Stabilisierungspolitik unter Unsicherheit und Risiko "optimal" sein? (Can Stabilization Policy Be "Optimal" under Uncertainty?)

This paper investigates the possibilities of "optimal" stabilization policies under uncertainty and risk. Starting from a decision-theoretic framework of the theory of economic policy, the author distinguishes between "stochastic uncertainty," "strategic uncertainty," and "fundamental uncertainty." Using results of optimal control and dynamic game theory, it is shown that "optimal" stabilization policies exist in general under stochastic uncertainty; under strategic uncertainty, however, "optimality" can only be defined for particular solution concepts and particular information patterns. In many cases "feedback policies" are "optimal" for both situations; "contingent rules" and systematic discretionary policies generally outperform "fixed rules." *Schweiz. Z. Volkswirtschaft. Statist.*, Sept. 1986, 122(3), pp. 509-34 (German). Wirtschaftsuniversität Wien.

Richards, Peter J.—Preserving Jobs under Economic Stabilization Programmes: Can There Be an Employment Target?

This article discusses stabilization measures in developing countries faced with a severe, nontemporary balance-of-payments crisis. Such measures are usually associated with economic contraction and job loss. A number of proposals are reviewed by which stabilization could be

made less socially disruptive, with special reference to the feasibility of setting an employment target. Stabilization programs usually fix indicative targets for output growth and it may be possible to include a minimum target for, say, child nutrition. It is, however, unclear how such a provision would work in practice. Employment targets would have similarities with social targets but, unlike the latter, they could not be achieved simply by changing government expenditure patterns. *Int. Lab. Rev.*, July-Aug. 1986, 125(4), pp. 423-34. International Labour Office.

134 Inflation and Deflation

Batton, Dallas S. and Hafer, R. W.—The Impact of International Factors on U.S. Inflation: An Empirical Test of the Currency Substitution Hypothesis

This paper rejects the currency substitution with regard to the determination of U.S. inflation. Quarterly estimates for 1972-82 demonstrated that changes in the effective exchange rate—argued by some to be the proper measure of foreign influences on domestic inflation—have no significant explanatory power in explaining inflation when combined with M1 growth. This result holds using the broad GNP deflator and wholesale prices. It also is shown that while a rest-of-world money growth variable does significantly add to M1 in explaining wholesale price inflation, it is not significant using the GNP deflator series. *Southern Econ. J.*, Oct. 1986, 53(2), pp. 400-412. Federal Reserve Bank of St. Louis; Washington University, St. Louis.

Chappell, David—The Optimal Rate of Inflation When the Rate of Growth of the Money Supply Is Stochastic

A model of the Bailey/Tower type in which the rate of growth of the money supply is stochastic is analyzed. It is shown that the optimal (i.e., revenue maximizing) rate of inflation is higher than in the corresponding deterministic case by an amount that depends positively on the variance of the money supply growth rate. The reason for this is the asymmetry of the Government Revenue functions. The model thus provides a possible explanation for the "excessive" rates of inflation observed in several econ-

omies. *Manchester Sch. Econ. Soc. Stud.*, Sept. 1986, 54(3), pp. 314-21. University of Sheffield.

Early, John F.; Lane, Walter and Sturm, Philip—A Half-Year Pause in Inflation: Its Antecedents and Structure

This article analyzes inflation, as measured by the Consumer Price Index for all Urban Consumers, during the first six months of 1986. It gives historical data from December 1960 and detailed sector-by-sector assessments of the status of consumer price change in mid-1986. The authors state that the decline in the overall CPI of 0.2 percent during the first six months of 1986 was attributable to the sharp decline in energy prices—fuel oil, coal, bottled gas, and motor fuels fell at an annual rate of 40.2 percent. Although shelter costs continued to advance at an annual rate of about 5 percent, price moderation was very widespread. *Mon. Lab. Rev.*, Oct. 1986, 109(10), pp. 3-14. Bureau of Labor Statistics.

200 Quantitative Economic Methods and Data

210 ECONOMETRIC, STATISTICAL, AND MATHEMATICAL METHODS AND MODELS

211 Econometric and Statistical Methods and Models

Andrews, Donald W. K.—Stability Comparisons of Estimators

This paper investigates a property of estimators called stability. The stability exponent of an estimator is defined to be a measure of the effect of any single observation in the sample on the realized value of the estimator. High stability often is desirable for robustness against misspecification and against highly variable observations. Stability exponents are determined and compared for a wide variety of estimators and econometric models. They are found to depend on the maximal moment exponent (i.e., the number of finite moments) of the estimator's influence curve. *Econometrica*, Sept. 1986, 54(5), pp. 1207-35. Cowles Foundation, Yale University.

Breusch, Trevor S.—Hypothesis Testing in Unidentified Models

An identified model is not necessary for statistical inference, but ambiguities can arise. This paper examines some simple examples and proposes a framework that distinguishes between the "refutation" and "confirmation" aspects of testing in an unidentified model. One particular problem is the interpretation given to overidentifying restrictions: a common view is that these are somehow not properly testable. *Rev. Econ. Stud.*, Aug. 1986, 53(4), pp. 635-51. Australian National University.

Brock, William A.—Distinguishing Random and Deterministic Systems: Abridged Version

This paper attempts to give a mathematically precise version of recent tests on an observed time series $\{a_t\}$ for the presence of low dimensional deterministic chaos. Three practical tests for chaos are discussed: (1) the correlation dimension of $\{a_t\}$ must be low; (2) the estimated largest Lyapunov exponent must be positive; (3) the residuals $\{a_t\}$ of an estimated linear time (or nonlinear) series model (for a large class of such models) must have the same dimension and largest Lyapunov exponent as $\{a_t\}$. Based on (1)-(3) evidence for chaos in post-World War II, U.S. quarterly real GNP is weak. *J. Econ. Theory*, Oct. 1986, 40(1), pp. 168-95. University of Wisconsin.

Burtless, Gary and Orr, Larry L.—Are Classical Experiments Needed for Manpower Policy?

The critical element that distinguishes classical experiments from all other modes of analysis is the random assignment of treatment to enrollees in a study. This paper examines the major methodological advantages of random assignment for the purpose of estimating the effectiveness of current manpower policy. It also reviews the claimed methodological and ethical objections to experiments. The main valid objection to an experiment is neither methodological nor ethical, it is the experiment's cost compared with that of nonexperimental methods of analysis. The authors argue that the offsetting gain from experimentation is the inherent reliability of experimental estimates of treatment effects. *J. Human Res.*, Fall 1986, 21(4), pp. 606-32. Brookings Institution; Abt Associates.

Campos, Julia—Finite-Sample Properties of the Instrumental-Variables Estimator for Dynamic Simultaneous-Equation Subsystems with ARMA Disturbances

Numerical-analytical approximations to the finite sample moments of the instrumental variables estimator (IVARMA) of possibly incomplete dynamic simultaneous equation systems with ARMA disturbances are obtained. Monte Carlo methods are proposed and implemented for studying the finite sample bias, standard error, and estimated asymptotic standard error. A control variate is derived for constructing efficient Monte Carlo estimators and response surfaces are developed. *J. Econometrics*, Aug. 1986, 32(3), pp. 333-66. Central Bank of Venezuela, Caracas.

Collender, Robert Neil and Chalfant, James A.—An Alternative Approach to Decisions under Uncertainty Using the Empirical Moment-Generating Function

Objections to mean-variance analysis center on the requirement that the distributions be normal or the resulting inattention to higher-order moments when the solution is viewed as an approximation. A nonparametric approach to decision making under uncertainty is developed in this paper using expected utility maximization, the exponential utility function, and an empirical moment-generating function. A decision rule is obtained for land allocation under uncertainty, which is not tied to a particular family of distributions and accounts for all moments of the distribution. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 727-31. North Carolina State University; University of California, Berkeley.

Ericsson, Neil R.—Post-simulation Analysis of Monte Carlo Experiments: Interpreting Pesaran's (1974) Study of Non-nested Hypothesis Test Statistics

Monte Carlo studies may be divided operationally into three phases: design, simulation, and post-simulation analysis. This paper provides a guide to the last of these, and uses M. H. Pesaran's (1974) study of statistics for testing nonnested hypotheses to illustrate the techniques described. A statistic is derived for testing for significant deviations between the

asymptotic and (observed) finite sample properties. Further, that statistic provides the basis for analyzing discrepancies between the finite sample and asymptotic properties using response surfaces. Finally, a method is proposed for adjusting the finite sample sizes of different test statistics so that comparisons of their power can be made. *Rev. Econ. Stud.*, Aug. 1986, 53(4), pp. 691-707. Federal Reserve Board.

Geweke, John; Marshall, Robert C. and Zarkin, Gary A.—Exact Inference for Continuous Time Markov Chain Models

Methods for exact Bayesian inference under a uniform diffuse prior are set forth for the continuous time homogeneous Markov chain model. It is shown how the exact posterior distribution of any function of interest may be computed using Monte Carlo integration. The solution handles the problems of embeddability in a very natural way, and provides (to our knowledge) the only solution that systematically takes this problem into account. The methods are illustrated using several sets of data. *Rev. Econ. Stud.*, Aug. 1986, 53(4), pp. 653-69. Duke University.

Hamilton, James D.—A Standard Error for the Estimated State Vector of a State-Space Model

The Kalman filter is an increasingly used tool in economics for models that can be expressed in state-space form. For empirical applications in which model parameters must be estimated from the data, the econometrician may wish to describe how far estimates of the state vector might be from true values. This paper motivates a standard error for the estimated state vector that takes into account both parameter and filter uncertainty. *J. Econometrics*, Dec. 1986, 33(3), pp. 387-97. University of Virginia.

King, Maxwell L. and Smith, Murray D.—Joint One-Sided Tests of Linear Regression Coefficients

This paper considers the problem of testing whether a subset of regression coefficients are jointly zero, assuming knowledge of the coefficients signs. If this knowledge is ignored, the likelihood ratio, Wald, and Lagrange multiplier

tests are each equivalent to the F -test. The authors propose a new test, which has an optimal power property and can be applied as a t -test. Empirical power comparisons with the power envelope, the F -test, and the exact one-sided likelihood ratio test show that the new test can have exceptionally good power over a wide range of the parameter space. *J. Econometrics*, Aug. 1986, 32(3), pp. 367-83. Monash University, Clayton, Australia; University of New South Wales, Kensington, Australia.

Molinas, César—A Note on Spurious Regressions with Integrated Moving Average Errors

The expected value of sample autocorrelations for Integrated Moving Average (IMA) processes can be well below unity. In that case, when testing for cointegration, it is shown that several test statistics related to these autocorrelations have a very poor performance. *Oxford Bull. Econ. Statist.*, Aug. 1986, 48(3), pp. 279-82. Ministry of Economy and Finance, Spain and University of Barcelona.

Moulton, Brent R.—Random Group Effects and the Precision of Regression Estimates

When explanatory variable data in a regression model are drawn from a population with grouped structure, the regression errors are often correlated within groups. Error-component and random-coefficient regression models are considered as models of the intraclass correlation. This paper analyzes several empirical examples to investigate the applicability of random effects models and the consequences of inappropriately using ordinary least squares (OLS) estimation in the presence of random group effects. The principal findings are that the assumption of independent errors is usually incorrect and the unadjusted OLS standard errors often have a substantial downward bias, suggesting a considerable danger of spurious regression. *J. Econometrics*, Aug. 1986, 32(3), pp. 385-97. U.S. Bureau of Labor Statistics.

Pagan, Adrian—Two Stage and Related Estimators and Their Applications

This paper aims to provide a unified treatment of the properties of two stage estimators. General conditions are set forth for consistency, efficiency, and correct inferences. Applications

of the general theorems are made to models with expectations and diagnostic tests. The general approach frequently enables much simpler derivation of existing results, and provides a number of new ones. *Rev. Econ. Stud.*, Aug. 1986, 53(4), pp. 517-38. Australian National University.

Phillips, P. C. B. and Durlauf, S. N.—Multiple Time Series Regression with Integrated Processes

This paper develops a general asymptotic theory for processes that are integrated of order one. The theory includes vector auto regressions and multivariate regressions among integrated processes that are driven by innovation sequences that allow for a wide class of weak dependence and heterogeneity. The models studied cover cointegrated systems such as those studied by C. W. J. Granger and R. F. Engle and general linear simultaneous equations systems with contemporaneous regressor error correlation and serially correlated errors. Problems of statistical testing are also studied. *Rev. Econ. Stud.*, Aug. 1986, 53(4), pp. 473-95. Yale University.

Powell, James L.—Symmetrically Trimmed Least Squares Estimation for Tobit Models

This paper proposes alternatives to maximum likelihood estimation of the censored and truncated regression models. The proposed estimators are based upon symmetric censoring or truncation of the upper tail of the distribution of the dependent variable. The estimators are semiparametric, in the sense that they are consistent and asymptotically normal for a wide class of (symmetric) error distributions with heteroskedasticity of unknown form. The paper gives the regularity conditions and proofs of these large sample properties, demonstrates how to construct consistent estimators of the asymptotic covariance matrices, and presents the results of a simulation study for the censored case. *Econometrica*, Nov. 1986, 54(6), pp. 1435-60. University of Wisconsin.

Stoker, Thomas M.—Consistent Estimation of Scaled Coefficients

This paper studies the estimation of coefficients in index models, where the basic stochas-

tic structure is unknown. Index models arise in many practical situations requiring modeling of limited dependent variables. A general connection between behavioral derivatives and covariance estimators is established, which indicates how coefficients can be estimated up to scale using information on the distribution of the explanatory variables in the model. A sample covariance estimator and an instrumental variables estimator are proposed. Also discussed are asymptotic distribution theory and the bias in ordinary least squares regression coefficients. *Econometrica*, Nov. 1986, 54(6), pp. 1461-81. Massachusetts Institute of Technology.

Watson, Mark W.—Univariate Detrending Methods With Stochastic Trends

This paper discusses detrending economic time series when the trend is modeled as a stochastic process. It considers unobserved components models in which the observed series is decomposed into a trend (a random walk with drift) and a residual stationary component. Optimal detrending methods are discussed, as well as problems associated with using these detrended data in regression models. The methods are applied to three time series: GNP, disposable income, and consumption expenditures. The detrended data are used to test a version of the life-cycle consumption model. *J. Monet. Econ.*, July 1986, 18(1), pp. 49-75. Harvard University and National Bureau of Economic Research.

West, Kenneth D.—Full- versus Limited-Information Estimation of a Rational-Expectations Model: Some Numerical Comparisons

This paper compares numerically the asymptotic distributions of parameter estimates and test statistics associated with two estimation techniques: (1) a limited information one, which uses instrumental variables to estimate a single equation and (2) a full information one, which uses a procedure asymptotically equivalent to maximum likelihood to simultaneously estimate multiple equations. It is found that: (1) full information standard errors are only moderately smaller than limited information standard errors and (2) when the model is misspecified, full information tests tend to be more powerful,

and its parameter estimates tend to be more biased. *J. Econometrics*, Dec. 1986, 33(3), pp. 367-85. Princeton University.

812 Construction, analysis, and use of econometric models

Bartik, Timothy J.—The Estimation of Demand Parameters in Hedonic Price Models

This paper shows that the econometric problem of estimating hedonic demand parameters is not a standard identification problem caused by demand-supply interaction, as has been often assumed. Estimation procedures based on this assumption lead to biased results. The hedonic estimation problem is instead caused by the endogeneity of both prices and quantities when households face a nonlinear budget constraint. An instrumental variables solution to this problem is suggested using instruments that exogenously shift the budget constraint. *J. Polit. Econ.*, Feb. 1987, 95(1), pp. 81-88. Vanderbilt University.

Bean, Charles R.—The Estimation of "Surprise" Models and the "Surprise" Consumption Function

The first part of the paper outlines a simple method for estimating a class of models in which "surprises" appear and expectations are formed rationally. The second part of the paper applies the method to R. E. Hall's random walk model of consumption, which is extended to allow for stochastic interest rates and for leisure and government spending to be substitutes for private spending. Approximate restrictions due to the rational expectations hypothesis are derived but they are marginally rejected by the data. The ability of the life cycle with rational expectations model to encompass alternative models is also evaluated. *Rev. Econ. Stud.*, Aug. 1986, 53(4), pp. 497-516. London School of Economics.

Buccola, Steven T. and McCarl, Bruce A.—Small-Sample Evaluation of Mean-Variance Production Function Estimators

Production functions have been shown to be useful for characterizing input effects on both the mean and variability of yield. Monte Carlo experiments are used here to investigate small-sample properties of selected mean-variance

production function estimators. Estimation efficiency in the mean is found to improve with iteration on the mean and variance components. Although efficiency in the variance is greatest at the first stage, bias in the variance diminishes through at least the second stage. These effects are influenced by the degree and sign of heteroscedasticity and by sample size. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 732-38. Oregon State University; Texas A&M University.

Chetty, V. K. and Heckman, J. J.—A Dynamic Model of Aggregate Output Supply, Factor Demand and Entry and Exit for a Competitive Industry with Heterogeneous Plants

This paper presents a dynamic model of entry and exit of firms and plants of firms in a competitive industry with heterogeneous productive units. The model generalizes H. S. Houthakker's Cobb-Douglas model to a dynamic setting with firm investment. The model does not justify conventional representative firm approaches to modeling aggregate production technology. Unlike conventional rigid lag models, the derived lag structure in this model depends on the economic history of the industry. Nonetheless, the model is empirically tractable. Estimates of the model on U.S. data indicate that the framework can account for empirically important aspects of industry dynamics of factor demand and output supply. *J. Econometrics*, Oct./Nov. 1986, 33(1/2), pp. 237-62. Indian Statistical Institute, New Delhi; University of Chicago.

Chong, Yock Y. and Hendry, David F.—Econometric Evaluation of Linear Macro-Economic Models

In so far as they claim to represent economic behavior, empirical macroeconomic systems are open to direct evaluation and testing against data information. Since system characteristics are the prime concern of economy-wide models, it might be the case that the validity of every individual component is not essential to adequate overall performance. A new "limited information" test of forecast encompassing is proposed, based only on forecasts and requiring no other data from a model's proprietors. The derivation, merits, and drawbacks of such a test

are presented together with some suggestions for testing entailed relationships and interequation feedbacks. *Rev. Econ. Stud.*, Aug. 1986, 53(4), pp. 671-90. Nuffield College, Oxford University.

Despotakis, Kostas A.—Economic Performance of Flexible Functional Forms: Implications for Equilibrium Modeling

Flexible functional forms are well behaved over restricted regions—the outer domain—and constitute “good” approximations of a hypothetical true technology (set of preferences) over only a subregion of the outer domain—the inner domain. Comparison of such forms has been made in terms of outer domain. Ideally, it should also cover the inner domain. By definition, however, the inner domain is unquantifiable. Instead, functions representing producer technology (consumer preferences) can be characterized and compared in terms of what is called in this paper economic performance. Focusing on the producer side, the author demonstrates that relative differences and associated implications for equilibrium modeling can be substantial. *Europ. Econ. Rev.*, Dec. 1986, 30(6), pp. 1107-43. University of California, Berkeley.

Garrod, Peter V. and Roberts, Roland K.—Prices as Proxies for Prices

It is unusual for the precise price data required by economic theory to be available, and as a result, many applied studies use information on regional or average prices as proxies for the specific prices required. The use of one price as a proxy for another, however, introduces all the problems associated with the use of proxy variables into the analysis; and these problems may persist, particularly those associated with specification errors, even if the proxy is highly correlated with the true variable. It is possible, however, to minimize the impact of specification errors by adding additional variables. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 626-33. University of Hawaii; University of Tennessee.

Granger, Clive W. J.—Developments in the Study of Cointegrated Economic Variables

A pair of series are called cointegrated if they have identical long-run components. It follows that they may be thought of as being generated by an error correction, partly driven by the extent to which the series are out of equilibrium. A number of interesting consequences arise with clear economic interpretations. The paper discusses a number of generalizations of the concept, to many dimensions, time-varying parameters and nonlinear models. *Oxford Bull. Econ. Statist.*, Aug. 1986, 48(3), pp. 213-28. University of California, San Diego.

Hall, S. G.—An Application of the Granger & Engle Two-Step Estimation Procedure to United Kingdom Aggregate Wage Data

In this paper the Granger and Engle two-step procedure is used in the estimation of an aggregate wage equation for the United Kingdom, which incorporates a term in the expected rate of price inflation. Typically, when such a term is included and standard econometric techniques are used on U.K. data, the value of the parameter on expected prices is quite a lot larger than unity. The use of the two-stage estimation technique will be seen to produce a set of parameter estimates that is much closer to the *a priori* expectation. *Oxford Bull. Econ. Statist.*, Aug. 1986, 48(3), pp. 229-39. National Institute of Economic and Social Research, London.

Hazilla, Michael and Kopp, Raymond J.—Testing for Separable Functional Structure Using Temporary Equilibrium Models

The importance that functional structure plays in the analysis of producer behavior is well known and responsible for the empirical tests of input separability hypotheses found in the contemporary literature. Unfortunately, to our knowledge all such tests have been conducted under the maintained assumption of full factor input equilibrium. In this paper the authors propose and implement a method for testing functional structure hypotheses when the behavioral units are permitted to be in disequilibrium. The results of this more general test provide less support for the existence of input separability in two-digit manufacturing than previously reported by the authors using tests assuming full equilibrium. *J. Econometrics*,

Oct./Nov. 1986, 33(1/2), pp. 119-41 Resources for the Future, Washington, D.C.

Headry, David F.—Econometric Modelling with Cointegrated Variables: An Overview

This overview introduces a special issue on cointegration and the existence of long-run economic relationships. The concepts of integration and cointegration are discussed against the historical background of research on spurious regressions. Modeling issues concern the fitting of static regressions to cointegrated data series; the associated testing theory; testing for unit roots; and fitting error correction models. The problems of autocorrelation corrections and multicollinearity are reviewed, as is the dimensionality issue for relating stocks and flows. A brief description is provided of the other papers in the special issue. *Oxford Bull. Econ. Statist.*, Aug. 1986, 48(3), pp. 201-12. Nuffield College, Oxford University.

LaFrance, Jeffrey T.—The Structure of Constant Elasticity Demand Models

Applied agricultural economics extensively uses the demand model with constant price and income elasticities. This paper analyzes the structure of incomplete systems of constant elasticity demand functions, demonstrating a duality theory analogous to that for complete systems. This theory permits recovery of that portion of direct and indirect preferences pertaining to goods of interest. One can calculate exact welfare measures for income and price changes of these goods. For an incomplete system of constant elasticity demands, Slutsky symmetry restrictions for integrability are presented and the implied structure of direct and indirect preferences of prices and goods of interest is derived. *Amer. J. Agr. Econ.*, Aug. 1986, 69(3), pp. 543-52. Montana State University.

Lee, Lung-Fei—The Specification of Multi-market Disequilibrium Econometric Models

The specifications of multi-market disequilibrium econometric models are clouded with different notions of effective demand. This paper points out that the specification of such models for econometric analysis can be achieved from the basic concept of fixed price equilibrium and without the use of the concepts

of effective demand. The specifications of T. Ito and C. J. J. Gourieroux, J. J. Laffont, and A. Monfort are justified within this framework. With proper stochastic elements introduced in the system, the derived likelihood function from this approach does not involve multiple integrals and is computationally tractable for models with many markets. *J. Econometrics*, Aug. 1986, 32(3), pp. 297-332. University of Minnesota.

Lee, Lung-Fei and Pitt, Mark M.—Micro-econometric Demand Systems with Binding Nonnegativity Constraints: The Dual Approach

This paper considers the problem of specifying and estimating demand systems for samples that contain a significant proportion of observations with zero purchase or consumption of one or more goods. This approach uses virtual prices, which are dual to the Kuhn-Tucker conditions, to select the set of goods consumed—the demand regime—and to transform binding nonnegativity constraints into nonbinding constraints. It has the advantage of permitting the use of indirect cost and utility functions such as the translog and the analytic decomposition of demand effects for goods at the nonnegativity limit. *Econometrica*, Sept. 1986, 54(5), pp. 1237-42. University of Minnesota.

Mullahy, John—Specification and Testing of Some Modified Count Data Models

This paper explores the specification and testing of some modified count data models. These alternatives permit more flexible specification of the data-generating process than do familiar count data models, and provide natural means for modeling data that are over- or under-dispersed. In the cases considered, the familiar forms of the distributions result as parameter-restricted versions of the modified distributions. Accordingly, score tests of the restrictions that use only the ML estimates of the standard models are proposed. The specification tests of J. A. Hausman and H. White are also considered. An example using survey microdata on beverage consumption is presented. *J. Econometrics*, Dec. 1986, 33(3), pp. 341-65. Yale University and Resources for the Future, Washington, D.C.

Naik, Gopal and Leuthold, Raymond M.—A Note on Qualitative Forecast Evaluation

Traditionally, the 2 x 2 contingency table method has been used for qualitative evaluation of forecasts. However, the conclusions drawn based on this method could be misleading because it does not account for the direction of the turning or no turning points. A 4 x 4 contingency table, which overcomes this weakness and which gives more information on the qualitative performance of the forecast, is suggested. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 721-26. University of Illinois.

Prucha, Ingmar R. and Nadiri, M. Ishaq—A Comparison of Alternative Methods for the Estimation of Dynamic Factor Demand Models under Non-static Expectations

Several approaches to the formulation and estimation of dynamic factor demand systems under nonstatic expectations on the exogenous variables in the firm's decision process have been suggested. Among those approaches there are trade-offs in terms of statistical and computational efficiency, the generality with which the technology and the expectation-formation process can be specified, and informational requirements. This paper analyzes the trade-offs among three alternative approaches in terms of their statistical and computational efficiency within the context of a Monte Carlo experiment. *J. Econometrics*, Oct./Nov. 1986, 33(1/2), pp. 187-211. University of Maryland; New York University.

Weissenberger, Edgar; Müller-Brockhausen, Gerd and Welsch, Heinz—A Factor Demand Model with Quasi-fixed Factors and Rational Expectations

A dynamic model of factor demand is presented within which the rationality of output and price expectations is tested. The model is estimated using yearly U.S. manufacturing data. Testing the overidentifying restrictions for Model A, these restrictions have to be rejected at the 0.01 significance level. After dropping the variable factor demand function the REH restrictions are rejected at the 0.05 level. Subsequently, the temporal response of capital and labor to output and price innovations is traced. In three out of four cases these responses reach

their maximum effects only after three to five years. *J. Econ. (Z. Nationalökonom.)*, 1986, 46(2), pp. 123-42. CISI-Wharton Econometric Forecasting Associates, Frankfurt; University of Bonn; University of Bonn.

Whiteman, Charles H.—Analytical Policy Design under Rational Expectations

The formulation of optimal policy in linear rational expectations models is studied using methods analogous to the classical design techniques utilized in linear systems engineering. The use of frequency-domain, Wiener-Hopf methods makes it a simple matter to account for the effects of alternative "regimes" on expectations. The solution to the problem is a closed form expression for the decision rule of the dominant player in a particular type of linear-quadratic dynamic game. *Econometrica*, Nov. 1986, 54(6), pp. 1387-1405. The University of Iowa.

213 Mathematical Methods and Models

Evans, George W.—Selection Criteria for Models with Non-uniqueness

Three objections are considered to the use of B. T. McCallum's rules for picking the minimal state set solution in rational expectations models with multiple equilibria. It is shown that these difficulties can be resolved using the concept of expectational stability as a selection criterion. *J. Monet. Econ.*, Sept. 1986, 18(2), pp. 147-57. Stanford University.

Fishburn, Peter C.—Implicit Mean Value and Certainty Equivalence

Past notions of mean value include expected values, the quasilinear mean, and Chew's weighted quasilinear mean. This paper axiomatizes a generalized mean value defined implicitly for each probability measure on the real numbers. The relationship between this mean and certainly equivalence for nontransitive and nonlinear utility theory is discussed. *Econometrica*, Sept. 1986, 54(5), pp. 1197-1205. AT&T Bell Laboratories, Murray Hill, New Jersey.

215 Experimental Economic Methods

Bull, Clive; Schotter, Andrew and Weigelt, Keith—Tournaments and Piece Rates: An Experimental Study

This paper presents an experimental examination of rank-order tournaments and piece rates. Ten experiments were run employing identical volunteers. While, in general, the mean effort levels chosen by subjects converged toward their theoretical equilibrium levels in both piece rate and symmetric tournament experiments, a large variance was observed for rank-order tournaments, and this variance persisted despite a number of different tournaments. The variance in the piece rate experiment was quite small. In the one asymmetric tournament, it was observed that while the mean effort level of "advantaged" subjects converged toward its theoretic equilibrium level, the mean effort level of disadvantaged subjects remained above their equilibrium level. *J. Political Econ.*, Feb. 1987, 95(1), pp. 1-33. New York University.

ECONOMIC AND SOCIAL STATISTICAL DATA AND ANALYSIS

National Income Accounting

Leuw, Frank—An Indirect Technique for Measuring the Underground Economy: A Note on Revised Data

A recently introduced technique for measuring the underground economy is based on comparing, for selected indicators, industries in which much underground activity is thought to take place (such as construction) with other industries. Application of the technique to U.S. national income before the comprehensive 1985 revision suggested some understatement of growth from 1949 to 1982. The present study examines U.S. data after the 1985 revision, which featured sizable new adjustments for underreporting of proprietors' income. The reexamination suggests that the revision substantially reduced understatement of growth, to a rate significantly different from zero. *Survey of Bus.*, Sept. 1986, 66(9), pp. 21-22. Bureau of Economic Analysis, U.S. Department of Commerce.

Input-Output

Ueda, Yukio—A More Powerful Method for Triangularizing Input-Output Matrices and the Similarity of Production Structures
This paper extends and refines the previous

triangularization method, which is based on a permutation theorem deriving from the interchange of adjoining two industrial groups, into that among three industrial groups (Theorem 2). The new algorithm based on Theorem 2 is demonstrated by actually computing the suboptimal orderings for the four input-output tables for such more-developed countries as the United States, Italy, Norway, and Japan, and the two tables for such less-developed countries as India and Korea. The empirical results support the similarity of hierarchical structures of production among these countries. *Econometrica*, Nov. 1986, 54(6), pp. 1425-33. Osaka Industrial University, Japan.

224 National Wealth and Balance Sheets

Lindert, Peter H.—Unequal English Wealth since 1670

New data on probated wealth, landownership, debts, and occupations extend the view of the distribution of English wealth back from 1911 to 1670. There were widening gaps in mean wealth between the top landed-plus-merchant classes and the middle classes across the Industrial Revolution century. Size distributions for individual assets also widened. So did those for income or total wealth (including human). But nonhuman net worth did not become more unequal because of important shifts in the land share. All inequality measures before 1914 exceeded all those since 1950. The estimates illuminate classical theories of distribution. *J. Polit. Econ.*, Dec. 1986, 94(6), pp. 1127-62. University of California, Davis.

226 Productivity Growth: Theory and Data

Boyce, James K.—Kinked Exponential Models for Growth Rate Estimation.

A continuous, kinked model for the estimation and comparison of subperiod growth rates is presented. Such models eliminate the "discontinuity bias" inherent in the conventional method of independently estimating growth rates for each subperiod and, hence, provide a better basis for intertemporal and cross-sectional comparisons. *Oxford Bull. Econ. Statist.*, Nov. 1986, 48(4), pp. 385-91. University of Massachusetts at Amherst.

300 Domestic Monetary and Fiscal Theory and Institutions

310 DOMESTIC MONETARY AND FINANCIAL THEORY AND INSTITUTIONS

Dini, Lamberto.—Towards a European Integrated Financial Market

The paper reviews innovation in financial markets in recent years and discusses related policy issues, notably the increased complexity of risk management and control by intermediaries and private agents, the revisions required in regulatory and supervisory structures, the consequences of innovation for the effectiveness of monetary policy. The ongoing process of liberalization of capital movements in Europe is then discussed. Differing prudential regulations and controls of financial markets and intermediaries are seen as obstacles to full financial integration, to be overcome through a combination of institutional harmonization and the mutual recognition of the different operating features and techniques. *Banca Naz. Lavoro Quart. Rev.*, Dec. 1986, (159), pp. 377-89. Bank of Italy, Rome.

Wilson, J. S. G.—A Money Market for Thailand?

Following an outline of money market prerequisites and of the Thai banking and financial system, this article examines present arrangements—the interbank market, the role of the Bank of Thailand and its open market operations (based on repurchase agreements), the limited role of Treasury bills and the Transferable Certificate of Deposit, and the possible use of bankers' acceptances and the new Citinote. Reference is also made to the Asian dollar and currency markets. Finally, the article considers how best to develop further the money market in Thailand. *Banca Naz. Lavoro Quart. Rev.*, Sept. 1986, (158), pp. 299-317. University of Hull.

311 Domestic Monetary and Financial Theory and Policy

Andersen, Torben M.—Differential Information and the Role for an Active Stabilization Policy

The paper considers the possibility of pursuing a systematic monetary policy to overcome

the coordination problems arising when agents have differential information. It is shown that a monetary feedback rule involving current feedback, but no prospective feedback, can eliminate the information problem by making the implications of the differential information immaterial for real allocations. The paper also considers a private indexation scheme as a substitute for monetary policy, and it is shown that they differ since indexation on currently known variables is neutral. Indexation of a prospective nature is, however, equivalent to a prospective feedback to the money supply. *Economica*, Aug. 1986, 53(211), pp. 321-38. University of Aarhus, Denmark.

Barnett, William A.; Hinich, Melvin J. and Weber, Warren E.—The Regulatory Wedge between the Demand-Side and Supply-Side Aggregation—Theoretic Monetary Aggregates

William A. Barnett introduced the use of neo-classical demand-side aggregation theory into monetary economics. More recently he has introduced supply side aggregation theory into monetary economics. It is shown that the demand-side and supply-side exact monetary aggregates need not be equal, even if aggregation is over the same component assets on both sides of the market and if all component-asset markets are cleared. The nonpayment of interest on required reserves produces a classical regulatory wedge between the two sides of the aggregate market. Time-series methods, including a new Hilbert transform method, are used to investigate the empirical importance of this aggregate gap. *J. Econometrics*, Oct./Nov. 1986, 33(1/2), pp. 165-85. University of Texas; University of Texas; Federal Reserve Bank of Minneapolis.

Bradley, Michael D. and Jansen, Dennis W.—Deposit Market Deregulation and Interest Rates

The existence of high interest rates during the current period of financial deregulation has led some to argue that deregulation has caused interest rates to rise. In this paper the authors analyze an important aspect of this assertion. In particular, they examine the impact of deposit market deregulation (as manifest by re-

lured ceilings on explicit deposit rates) on deposit and loan rates and find that appropriate consideration of competitively determined implicit interest payments on deposits leads to the conclusion that deposit market deregulation lowers loan and total (implicit plus explicit) deposit rates. *Southern Econ. J.*, Oct. 1986, 53(2), pp. 478-89. George Washington University; Texas A&M University.

Cornell, Bradford and French, Kenneth R.—Commodity Own Rates, Real Interest Rates, and Money Supply Announcements

This paper develops a measure of the real interest rate that is based on commodity own rates—the rate at which one can contract to exchange units of a commodity today for units of the commodity in the future. This measure is used to study the impact of money supply announcements on the real interest rate. The authors find that money shocks have little effect on one- and three-month real interest rates. However, there is a strong positive relation between money shocks and six- and twelve-month real interest rates. *J. Monet. Econ.*, July 1986, 18(1), pp. 3-20. University of California, Los Angeles; University of Chicago.

Culbertson, W. Patton, Jr. and Koray, Faik—Interest Rates, the Forward Premium, and Unanticipated Money

This paper examines why interest rates rise when the Federal Reserve announces a money supply greater than anticipated and explains this phenomenon by a rise in the real interest rate. This differs from previous works based on the assumption of sticky prices by introducing a flexible price model. It is shown that a negative correlation between the forward premium on foreign exchange and an unanticipated increase in the announced money supply implies a rise in the real interest rate and, hence, a rise in nominal interest rates. This implication is tested for five bilateral exchange rates. Supporting evidence is found. *Southern Econ. J.*, Oct. 1986, 53(2), pp. 383-99. Louisiana State University.

Cuthbertson, Keith—Price Expectations and Lags in the Demand for Money

The paper deals with the testing of expectations, adjustment, and structural parameters in

the context of studies of the demand for money. The nominal partial adjustment model is shown to impose a "steady state" inflation effect, but tests of the hypothesis frequently fail to take adequate account of autocorrelation and expectations about the price level. The autoregressive distributed-lag (ADL) approach allows a test of inflation effects, but if agents use rational expectations the steady state solution of the estimated ADL equation may be misleading. In an equation with future expectations variables or an ADL equation containing expectations variables, it is possible to identify and test expectations, adjustment, and structural parameters. *Scott. J. Polit. Econ.*, Nov. 1986, 33(4), pp. 334-54. University of Newcastle upon Tyne.

Dutkowsky, Donald H. and Atesoglu, H. Sonmez—Unanticipated Money Growth and Unemployment: Post-Sample Forecasts

This paper examines one year ahead forecasts of the original and modified Barro unemployment equations for the 1974-84 period. One year ahead predictions indicate that the equations accurately forecast unemployment for 1974-79. During 1980-84, both equations suffer significant structural breakdown and systematically underpredict unemployment. Augmenting the Barro equations with interest rate volatility considerably improves the model's forecasting ability throughout and rectifies the structural instability. The augmented equations also uphold much of the conclusions of the previous Barro work. The results indicate a promising direction for improving the Barro unemployment equations. *Southern Econ. J.*, Oct. 1986, 53(2), pp. 413-21. Syracuse University; Clarkson University, Potsdam, New York.

Eden, Benjamin—Trading Uncertainty and the Cash-in-Advance Constraint

It is argued that when money and bonds are distinct and money yields a lower rate of return, the quantity of private bonds that is exchanged for money is a signal for demand in the near future. Therefore, competitive price setters who observe transactions in the capital market will find it easier to quote prices when money and bonds are distinct, relative to the case in

which money and bonds are perfect substitutes. In the example analyzed, imposing a cash-in-advance constraint leads to fewer price-setting mistakes and to a Pareto improvement. *J. Monet. Econ.*, Nov. 1986, 18(3), pp. 285-93. University of Iowa.

Evans, Paul—Interest Rates and Expected Future Budget Deficits in the United States

It is widely believed that larger budget deficits—whether occurring in the past or present or expected to occur in the future—spell higher interest rates. Using three statistical techniques, this paper presents evidence inconsistent with this belief. Ricardian equivalence may explain why larger budget deficits are not associated with higher interest rates. *J. Polit. Econ.*, Feb. 1987, 95(1), pp. 34-58. University of Houston.

Foster, Gladys Parker—The Endogeneity of Money and Keynes's *General Theory*

The article refutes the monetarist position that the quantity of money is exogenously determined, shows how Keynes's presentation of money as exogenously determined provided a rationale for attacks on *The General Theory*, and demonstrates that only an endogenous theory of money is consistent with Keynes's central thesis on income and employment. The nature of the relationship between saving and investment posited by Keynes requires the creation of credit, i.e., money, for financing investment. The approach of the article is largely theoretical, but draws upon the empirical literature as a check on the theory. *J. Econ. Issues*, Dec. 1986, 20(4), pp. 953-68. University of Colorado, Denver.

Greenfield, Robert L. and Yeager, Leland B.—Money and Credit Confused: An Appraisal of Economic Doctrine and Federal Reserve Procedure

Money's distinctiveness as the medium of exchange places the money stock outside the realm of ordinary supply-and-demand analysis. The portrayal of the quantity of money as a supply-and-demand-determined magnitude does not merely "perpetuate the ancient confusion between money and credit," to quote Karl

Brunner. It actually identifies the demand for money with the demand for credit. Nevertheless, much of the literature on monetary policy portrays the quantity of money in just this fashion. Indeed, the erroneous doctrine forms the cornerstone of Federal Reserve operating procedures, setting the stage for perverse changes in the quantity of money. *Southern Econ. J.*, Oct. 1986, 53(2), pp. 364-73. Fairleigh Dickinson University; Auburn University.

Hansson, Ingemar and Stuart, Charles—The Fisher Hypothesis and International Capital Markets

In a closed economy with interest taxes at rate τ and with a constant real net rate of interest, the nominal rate of interest should rise by $1/(1 - \tau)$ points for every point rise in the expected rate of inflation. However, a large body of empirical work examines the determinants of nominal interest rates and generally finds that the coefficient of expected inflation is close to or less than one. The authors model the determination of interest rates in an open economy with taxes. Under plausible conditions, increases in inflation cause the nominal interest rate to rise roughly point for point. This suggests that open-capital-market considerations are central for understanding aggregate economic behavior. *J. Polit. Econ.*, Dec. 1986, 94(6), pp. 1330-37. University of Lund, Sweden; University of California, Santa Barbara.

Hayakawa, Hiroaki—Intertemporal Optimization and Neutrality of Money in Growth Models

This paper examines the question of the non-neutrality of money in normative monetary growth models in which the desired paths of consumption and asset accumulation are derived from intertemporal optimization considerations. With the inflation rate determined from the requirement that the *ex ante* excess flow demand for goods be closed partially or completely by the price adjustment, it is shown that the neutrality of money in such models is invariant to the differences between the neo-classical and the Keynes-Wicksellian market structures. *J. Monet. Econ.*, Nov. 1986, 18(3), pp. 323-28. University of Georgia; Nagoya Gakuin University, Seto, Japan.

Hueta, Pierre-Yves and Zylberberg, André—Contrats indexés dans une économie monétaire (Indexed Contracts in a Monetary Economy)

This paper is devoted to a systematic analysis of indexed contracts in a monetary economy. Using an overlapping generation model, it assumes successively perfect and imperfect information about random disturbances affecting the economy. Beyond the traditional distinction between real and monetary shocks, the emphasis is put on distributive neutrality of money and on the degree of persistency of various shocks. It results from the paper that the contractual degree of indexation, far from being structural as assumed in Keynesian models, is related to economic policy parameters. *Ann. Econ. Statist.*, Apr./June 1986, (2), pp. 147-63 (French). University of Paris-I.

Kohn, Meir—Monetary Analysis, the Equilibrium Method, and Keynes's "General Theory"

Compared with the work of his contemporaries, Keynes's *General Theory* represented a radical change in theoretical method—from sequence analysis to the method of equilibrium. The nature of this change is discussed, together with its implications for the substance of Keynes's message and for the subsequent development of macroeconomics. *J. Polit. Econ.*, Dec. 1986, 94(6), pp. 1191-1224. Dartmouth College.

Lavoie, Marc—Systemic Financial Fragility: A Simplified View

The paper provides a simple model of four equations, which allows one to interpret the complex financial-fragility hypothesis of H. P. Minsky within a macroeconomic setting. The model shows how accelerating growth rates may lead to heavier leverage ratios and higher profit margins. The latter is then related to accelerating inflation, with or without a feedback mechanism based on the notion of a conventional fair income share. This, in turn, explains why investment booms may lead to high interest rates, although the money supply is strictly endogenous. *J. Post Keynesian Econ.*, Winter 1986-87, 9(2), pp. 285-64. University of Ottawa.

Loderer, Claudio, Lys, Thomas and Schweitzer, Urs—Daily Monetary Impulses and Security Prices

This paper uses Swiss data to study the real long-run effects of monetary policy. Daily unexpected changes in the monetary base are found to be negatively correlated with security price changes. This result is unaffected when, implicitly following Robert Geake and Richard Roll (1983), the authors try to measure the autonomous component of monetary policy by taking into account a reaction function of monetary policy to changes in real variables. *J. Monet. Econ.*, July 1986, 18(1), pp. 33-47. Purdue University; Northwestern University; Bühler Bros. Ltd., Uzwil, Switzerland.

Lubrano, M. and Pierse, R. G. and Richard, J.-F.—Stability of a U.K. Money Demand Equation: A Bayesian Approach to Testing Exogeneity

The paper analyzes an M3 demand for money equation for the United Kingdom. Attention is paid to the policy change that occurred in 1971 with the introduction of the measures known as Competition and Credit Control. Classical and Bayesian single-equation instrumental variables procedures are developed to investigate the exogeneity of the short-term interest rate and the constancy of the parameters of the underlying relationships. The parameters of the short-term equation have changed as well as the exogeneity status of the interest rate variable but the parameters of the long-term equation appear to be less affected by the policy change. *Rev. Econ. Stud.*, Aug. 1986, 53(4), pp. 603-34. GREQE, University of Aix-Marseille; University of Cambridge; CORE, Catholic University of Louvain.

McCafferty, Stephen—Aggregate Demand and Interest Rates: A Macroeconomic Approach to the Term Structure

This paper develops a model in which the term structure of interest rates obtains as an equilibrium outcome of the interactions of firms, households, and rationally informed speculators. Exogenous disturbances whose impact effects fall only in the market for short-term bonds generate equilibrium movements in the yield on long term bonds and the level

of investment spending. In the case of risk-averse speculators, a purely transitory, unanticipated shock to the money supply generates a long distributed-lag effect on the level of aggregate demand. *Econ. Inquiry*, Oct. 1986, 24(4), pp. 521-33. Ohio State University.

McGibany, James M. and Nourzad, Farrokh—
Interest Rate Volatility and the Demand for Money

This article provided evidence that interest rate volatility exerts a direct influence on money demand. This implies that money demand may have been one of the channels of influence through which increased interest rate volatility adversely affected aggregate demand and, therefore, output since 1979. In addition, the effects of anticipated and unanticipated volatility on money demand were found to be inseparable. *Quart. Rev. Econ. Bus.*, Autumn 1986, 26(3), pp. 73-83. Marquette University.

Merrick, John J., Jr. and Saunders, Anthony—
International Expected Real Interest Rates: New Tests of the Parity Hypothesis and U.S. Fiscal Policy Effects

This paper investigates the links among expected real interest rates across countries and also those between international expected real interest rates and U.S. fiscal policy. The authors analyze the cross-sectional mean of international *ex post* real interest rates as an estimator for the mean international expected real interest rate. The results strongly reject the international expected real interest rate parity hypothesis; reveal that U.S. budget deficits have no independent effects on international real rates given the impact of U.S. government defense spending; and suggest that forces other than U.S. fiscal policy account for the post-1980 rise in international real rates. *J. Monet. Econ.*, Nov. 1986, 18(3), pp. 313-22. New York University.

Miller, Edward M.—Implications of Multiple Motives for Holding Bank Money

The standard Keynesian system includes both a fixed money supply (M-MO) and a speculative and transaction demand for money. However, a rational bank depositor would hold his speculative and transaction funds in different types

of accounts. Funds held for transaction deposits would be in checking accounts against which checks can be written (the cost of which likely would lead banks to offer no or little interest), while funds that are an alternative to bonds would be held in accounts designed to attract such funds. If the reserve ratio on the different types of accounts differ, as they do in the United States, such shifts of funds would change the money supply, a conclusion inconsistent with the assumed constancy of the money supply. Thus, the standard textbook treatment is logically inconsistent. Once this inconsistency is remedied, Keynesian and monetarist models are much closer to one another. *Quart. Rev. Econ. Bus.*, Autumn 1986, 26(3), pp. 84-104. University of New Orleans.

Minford, Patrick—Rational Expectations and Monetary Policy

This essay considers how rational expectations changed the evaluation of monetary policy. The first section reviews underpinnings of the "Phillips curve" relation between inflation and output. The second section examines implications of: (1) the government budget constraint and (2) long-term stationarity of the government debt/GDP ratio. The third section reviews monetary stabilization policy. "Policy effectiveness" will in general exist in rational expectations models, despite the early counter example of T. J. Sargent and N. Wallace. The real problems relate to the desirability of such policy. The essay concludes that rational expectations have made monetary institutions "more of a mystery than ever before." *Scott. J. Polit. Econ.*, Nov. 1986, 33(4), pp. 317-33. University of Liverpool.

Myatt, Anthony E. and Young, Gregory—Interest Rates and Inflation: Uncertainty Cushions, Threshold and "Patman" Effects

Recent theoretical results suggest that interest rate increases may cause inflationary price increases and make instability more likely. Using the Wald variant of the Granger test, the authors find no evidence of interest rates (real or nominal) having a causal impact on inflation. There is, however, strong evidence of a causal link from inflation to both real and nominal interest rates. Evidence of threshold effects in

the public's perception of inflation is found. It is also shown that the increased variability of inflation can explain the entire increase in real *ex ante* interest rates in the post-1978 period. *Eastern Econ. J.*, Apr.-June 1986, 12(2), pp. 103-14. University of New Brunswick; Bank of Montreal.

Neumann, Manfred J. M.—Die Grundgeldmenge—Ein neuer Indikator der Geldpolitik (The Base Money Stock—A New Indicator of Monetary Policy)

This paper analyzes the indicator properties of alternative base money concepts used by the German Council of Economic Experts and by the Deutsche Bundesbank. Both concepts are flawed by an inadequate treatment of changes in legal reserve requirements. As a result, the direct contribution of monetary policy to money growth has been continuously understated by the Council's indicator, during recent years, while the Bundesbank's central bank money stock has understated (1983, 1984) and overstated (1982, 1985) the policy contribution. Finally, a superior base money measure is proposed which combines the source base with a multiplier based on a logarithmic reserve adjustment. *Weltwirtschaft. Arch.*, 1986, 122(3), pp. 520-33 (German). Institut für Stabilisierungs- und Strukturpolitik, Bonn.

Paul, M. Thomas and Bhattacharyay, Biswa N.—Can Money Matter in a Developing Economy?

This study demonstrates that the productivity of real money balances is small in two developing countries (India and Pakistan), using a methodology due to Richard Startz (1984). *J. Monet. Econ.*, Sept. 1986, 18(2), pp. 205-07. National Institute of Bank Management, Pune, India.

Smith, Bruce—Limited Information, Money, and Competitive Equilibrium

In an overlapping generations model with borrowing and lending, uncertainty, and asymmetric information, fiat money may be essential to the existence of a competitive equilibrium. It may also serve to enhance the information of economic agents in a well defined sense. In addition, the model presented provides suggestions about why the presence of valued fiat cur-

rency is essential to the existence of an equilibrium, even though in equilibrium perfect substitutes for money may exist. Finally, the presence of private information, and the existence problems it creates, is shown to affect standard conclusions in these models about "optimal" government policy choices. *Can. J. Econ.*, Nov. 1986, 19(4), pp. 780-97. Carnegie-Mellon University and Federal Reserve Bank of Minneapolis.

Summers, Lawrence H.—Estimating the Long-run Relationship between Interest Rates and Inflation: A Response

This note demonstrates that Bennett McCallum's recent critique of low-frequency estimates of macroeconomic relationships is of little empirical significance. It also demonstrates that readily available and frequently used techniques can be used to diagnose the problem McCallum raises. Finally, it shows that the standard critique of expectational distributed lags is not warranted once the role of learning by economic agents is recognized. *J. Monet. Econ.*, July 1986, 18(1), pp. 77-86. Harvard University.

Taylor, Herb—Deposit Market Deregulation and the Recent Behavior of M1

The recent pattern of errors from standard money demand equations makes it difficult to attribute their breakdown to deposit market deregulation. But deregulation's role may be obscured by seasonal filtering of the data, inappropriate measurement of households' opportunity cost of holding money, and aggregation bias. Estimates of not seasonally adjusted household money demand using the Demand Deposit Ownership Survey data suggest that deregulation has affected by money demand by changing households' opportunity cost of holding money. In addition, the introduction of nationwide NOWs and Super NOWs each seems to have caused significant one-time increases in household money demand. *Eastern Econ. J.*, July-Sept. 1986, 12(3), pp. 307-12. Federal Reserve Bank of Philadelphia.

Terzi, Andrea—The Independence of Finance from Saving: A Flow-of-Funds Interpretation

Keynes's proposition about the independence of finance from saving is rejected by those econ-

onomists, policymakers, and commentators who adhere to the loanable funds theory of interest. For the latter, saving and lending activity provides a net source of funds to the capital market. This paper provides a flow-of-funds model where the flow of household savings, even when it is entirely used to purchase securities, is not a net component of the supply of funds in the capital market. Thus, households' consumption and saving decisions are shown to be irrelevant for the conditions of finance faced by investors. *J. Post Keynesian Econ.*, Winter 1986-87, 9(2), pp. 188-97. Franklin College, Lugano-Sorengo, Switzerland.

Williamson, Stephen D.—Costly Monitoring, Financial Intermediation, and Equilibrium Credit Rationing

This paper establishes a link between equilibrium credit rationing and financial intermediation in a model with asymmetrically informed lenders and borrowers, costly monitoring, and investment project indivisibilities. Intermediation is shown to dominate borrowing and lending between individuals, and these financial intermediaries exhibit several of the important features of intermediaries as we know them. Equilibrium interest rates and the aggregate quantity of loans respond quite differently to changes in taste and technology parameters, depending on whether or not there is rationing in equilibrium. *J. Monet. Econ.*, Sept. 1986, 18(2), pp. 159-79. Queen's University, Kingston, Ontario and University of Western Ontario, London, Ontario.

Williamson, Stephen D.—Increasing Returns to Scale in Financial Intermediation and the Non-neutrality of Government Policy

A general equilibrium model of imperfectly competitive financial intermediaries is constructed and used to study the effects of some standard policy experiments. One-time increases in the growth rate and in the level of the stock of money have nonneutral (and sometimes surprising) effects on interest rates, the quantity of intermediated borrowing and lending, the number of intermediary firms, inflation and the price level. Optimal government macroeconomic policy is shown to reflect a tradeoff between public sector frictions and the capital

market distortion created by increasing returns to scale and imperfect competition in private intermediation. *Rev. Econ. Stud.*, Oct. 1986, 53(5), pp. 863-75. Queen's University and University of Western Ontario.

312 Commercial Banking

Clark, Jeffrey A.—Single-Equation, Multiple-Regression Methodology: Is It an Appropriate Methodology for the Estimation of the Structure-Performance Relationship in Banking?

Tests of the structure-performance paradigm of the industrial organization literature have been carried out almost exclusively using a single-equation, multiple-regression methodology. The purpose of this paper is to suggest that where the firms being considered are multiple product in nature, and may pursue objectives in addition to maximizing the value of the firm, such a methodology may be inappropriate. The results presented in this paper suggest that the absence of a consistently strong, positive, and statistically significant relationship between market concentration and bank profitability may be traced in part to such an inappropriate methodology. *J. Monet. Econ.*, Nov. 1986, 18(3), pp. 295-312. Florida State University.

Kim, Moshe—Banking Technology and the Existence of a Consistent Output Aggregate

This paper addresses the question of the existence of a consistent output aggregate in banking. Specific, necessary and sufficient conditions for output aggregation are developed and tested in the context of a second-order approximation to any arbitrary multiproduct bank cost function. The analysis provides evidence that a composite (aggregate) measure of output fails to provide a proper representation of banking technology and, therefore, previous studies that used aggregate output measures may well be subject to specification errors. *J. Monet. Econ.*, Sept. 1986, 18(2), pp. 181-95. University of Haifa, Israel.

Müller, Albert—Risikoeinschätzung und Bankverhalten (Risk Preferences and the Behavior of Bank Management)

In this paper whether the kind of the risk preferences of a bank management has influ-

once on the comparative static results in a banking model in the tradition of Baltensperger, Niehaus and Ritzmann is analyzed. There are no qualitative differences between these models, when both interest rates of the assets are greater than the interest rate of the liability. *Schweiz. Z. Volkswirtsch. Statist.*, Sept. 1986, 122(3), pp. 371-87 (German). Schweizerische Bankgesellschaft, Zurich.

Todhanakasom, Warapatr, et al.—Economies of Scale and Organization Efficiency in Banking

Previous studies attempting to assess economies of scale in banking firms have largely relied upon cost functions. The profit-function approach enjoys several important advantages over the cost-function method, consequently that is the approach used in this study. A risk-adjusted profit function estimates economies of scale of unit and branch banks; and the effects of bank holding-company affiliation on the level of bank profits is also examined. The results indicate larger economies of scale for branch banks than for unit banks; and bank holding-company affiliates were found to be more efficient than independent banks. Coauthors are Morgan J. Lynge, Jr., Walter J. Primaux, Jr., and Paul Newbold. *Managerial Dec. Econ.*, Dec. 1986, 7(4), pp. 255-62. Thai Farmers Bank, Bangkok, Thailand.

313 Capital Markets

Amihud, Yakov and Mendelson, Haim—Asset Pricing and the Bid-Ask Spread

This paper studies the effect of the effect of the bid-ask spread on asset pricing. The authors analyze a model in which investors with different expected holding periods trade assets with different relative spreads. The resulting testable hypothesis is that market-observed expected return is an increasing and concave function of the spread. This hypothesis is tested, and the empirical results are consistent with the predictions of the model. *J. Finan. Econ.*, Dec. 1986, 17(2), pp. 223-49. Tel-Aviv University and New York University; University of Rochester.

Anderson, Seth Copeland—An Analysis of Trading Strategies for Closed-End Equity Funds

This paper reexamines the trading rules that were the subject of an earlier study by R. M. Richards, Don R. Fraser, and John C. Groth. Closed end investment company share data are investigated for 1965-69, 1970-76, and 1977-August 1984. Using both an alternative return metric and an alternative discount metric in all periods, large returns are obtained when various strategies are implemented. The returns are not significantly more variable than returns of the market for each period. The use of filter rules with prices does not result in consistently profitable filter strategies. The results generally support those of Richards, Fraser, and Groth. *Quart. J. Bus. Econ.*, Winter 1987, 26(1), pp. 3-19. University of Alabama.

Barone-Adesi, Giovanni and Whaley, Robert E.—The Valuation of American Call Options and the Expected Ex-Dividend Stock Price Decline

This study focuses on the ex-dividend stock price decline implicit within the valuation of American call options on dividend-paying stocks. The Roll (1977) American call option pricing formula and the observed structure of CBOE call option transaction prices are used to infer the expected ex-dividend stock price decline as a proportion of the amount of the dividend. The relative decline is shown to be not meaningfully different from one, confirming some recent evidence from studies that examined stock prices in the days surrounding ex-dividend. *J. Finan. Econ.*, Sept. 1986, 17(1), pp. 91-111. University of Alberta; Duke University.

Bauer, Richard J., Jr; Hays, Patrick A. and Upton, David E.—Parameter Instability in Mutual Fund Portfolios: A Shifting Regimes Test

This study uses a shifting regimes approach to indicate whether instability in the regression parameters of the characteristic line for mutual fund portfolios is present to any great degree. The cumulative sum of squared recursive residuals test, developed by R. L. Brown, J. Durbin, and J. M. Evans, is used to test the stationarity of regression model parameters. The results are compared to those obtained with

the partition regression approach used by W. Miller and W. Gressis. Both studies imply that substantial instability in the regression parameters exists and that this nonstationarity can be modeled as a distinct shift between discrete intervals or regimes of relative parameter instability. *Quart. J. Bus. Econ.*, Winter 1987, 26(1), pp. 50-62. University of Western Ontario; Western Carolina University, Cullowhee, North Carolina; Texas Tech University.

Jenninga, Simon and Protopapadakis, Aris—General Equilibrium Properties of the Term Structure of Interest Rates

The paper examines the allocation of consumption and investment in a three-date binomial model in order to determine the sign of the real term structure premium in general equilibrium. When production functions are concave, markets are complete, and future production possibilities are the same irrespective of which state of the world occurs, the term structure premium will be positive. In incomplete markets, constant or increasing absolute risk aversion is sufficient to guarantee a positive term structure premium, although in the (more likely) case of decreasing absolute risk aversion negative premium cannot be ruled out. *J. Finan. Econ.*, July 1986, 16(3), pp. 389-410. Hebrew University and University of Pennsylvania; Federal Reserve Bank of Philadelphia and University of Pennsylvania.

Green, William; Jagannathan, Ravi and Ofer, Aharon R.—Correcting for Heteroskedasticity in Tests for Market Timing Ability

In this paper the authors examine the parametric test proposed by R. D. Henrikson and J. C. Merton for evaluating the market timing ability of portfolio managers. Using simulation techniques, they show that correction for heteroskedasticity can significantly affect the conclusions. It is also found that the heteroskedasticity corrections suggested by L. P. Hansen and by H. White are particularly effective. *J. Bus.*, Pt. 1, Oct. 1986, 59(4), pp. 585-96. Northwestern University; Northwestern University; Northwestern University and Tel-Aviv University.

Buser, Stephen A. and Hess, Patrick J.—Empirical Determinants of the Relative Yields on Taxable and Tax-Exempt Securities

Yields on short-term, prime-grade municipals vary through time in relation to after-corporate-tax yields on short-term U.S. Treasury securities. The pattern is not related to the default premium in municipal yields or to the historical ceiling on bank deposit rates (Regulation Q). However, there is a strong link to the default premium in corporate yields and to municipal holdings by large commercial banks. These findings suggest that taxable and tax-exempt markets are linked both by the capital-structure decisions of firms and by the tax-arbitrage activities of banks. *J. Finan. Econ.*, Dec. 1986, 17(2), pp. 335-55. Ohio State University; University of Minnesota.

Chan, K. C.—Can Tax-Loss Selling Explain the January Seasonal in Stock Returns?

This paper analyzes the tax-loss selling hypothesis as an explanation of the January seasonal in the stock returns, and argues that rational tax-loss selling implies little relation between the January seasonal and the long-term loss. Empirical results show that the January seasonal is as strongly related to the long-term as it is to the short-term loss. The evidence is inconsistent with a model that explains the January seasonal by optimal tax trading. *J. Finance*, Dec. 1986, 41(5), pp. 1115-28. Ohio State University.

Chang, Eric C. and Pinegar, J. Michael—Return Seasonality and Tax-Loss Selling in the Market for Long-term Government and Corporate Bonds

The authors document a January seasonal in the U.S. market for long-term corporate bonds that becomes more evident as the bond rating declines. Moreover, a similar, but weaker, relation is observed for the stocks of firms with low-quality bonds. These patterns may relate to firm size since bond ratings and firm size in the sample are positively related. However, even the smallest firms are relatively large. Much of the January effect documented appears to be consistent with the tax-loss selling hypothesis. *J. Finan. Econ.*, Dec. 1986, 17(2), pp.

301-415. University of Maryland; University of Iowa.

Chen, Andrew H. and Merville, Larry J.—An Analysis of Divestiture Effects Resulting from Deregulation

Capital market data were used to examine the divestiture effects pertaining to deregulation, the dropping of antitrust charges, and/or the reversing of the co-insurance effect associated with the recent breakup of AT&T. The empirical results of the study indicate that significant economic events took place during the breakup process, which led to transfers of wealth from various parties to the securityholders of AT&T. The results also indicate that the buffering effect of regulation was reduced as AT&T went through the total deregulation process. This is in accordance with S. Peltzman's prediction. *J. Finance*, Dec. 1986, 41(5), pp. 997-1010. Southern Methodist University; University of Texas at Dallas.

Cheng, David C. and Lee, Cheng F.—Ramsey's Specification Error Test and Alternative Specifications of the Market Model: Methods and Applications

The main purpose of this article is to show that the specification error test procedure developed by J. B. Ramsey (1964) and J. B. Ramsey and P. R. Schmidt (1976) can be used to determine empirically whether well known market model specifications are empirically appropriate for estimating individual companies' beta coefficients and forecasting rates of returns. *Quart. Rev. Econ. Bus.*, Autumn 1986, 26(3), pp. 6-24. University of Alabama; University of Illinois.

Coste, Douglas and VanderHoff, James—Stock Returns, Inflation, and Real Output

This paper provides empirical evidence on the extent to which the inverse relationship between real stock returns and inflation in recent years is causal or spurious. The results indicate that this relationship is spurious and can be explained by the inverse correlation between unexpected inflation and unexpected real output. The expected and unexpected real output and inflation variables are generated from the ASANBER Business Outlook Surveys. *Econ.*

Inquiry, Oct. 1986, 24(4), pp. 555-61. Rutgers University, Newark, New Jersey.

Darrat, Ali F.—Money and Stock Prices in West Germany and the United Kingdom: Is the Stock Market Efficient?

This paper empirically tests the implication of the stock market efficiency hypothesis that stock prices reflect all publicly available information, including news about monetary policy, for West Germany and the United Kingdom. Contrary to this hypothesis, a significant lagged relationship is found between stock returns and money growth in both countries. The empirical results also indicate the presence of significant lagged effects of unanticipated and anticipated money growth on current stock prices. Such results suggest that the stock markets in both countries appear to be inefficient, at least during the estimation period (1960:1 to 1982:4). *Quart. J. Bus. Econ.*, Winter 1987, 26(1), pp. 20-35. University of New Orleans.

Dietrich-Campbell, Bruce and Schwartz, Eduardo—Valuing Debt Options: Empirical Evidence

A two-factor model using the instantaneous rate of interest and the return on a consol bond to describe the term structure of interest rates (the Brennan-Schwartz model) is used to derive theoretical prices for American call and put options on U.S. government bonds and Treasury bills. These model prices are then compared with market prices. The theoretical model used to value the debt options also provides hedge ratios which may be used to construct zero-investment portfolios which, in theory, are perfectly riskless. Several trading strategies based on these "riskless" portfolios are examined. *J. Finan. Econ.*, July 1986, 16(3), pp. 321-43. New York University; University of British Columbia.

Dimson, Elroy and Marsh, Paul—Event Study Methodologies and the Size Effect: The Case of UK Press Recommendations

This study of 862 press recommendations demonstrates that the size effect can distort longer term performance measures, and hence event studies. Relative to similar sized companies, post-publication performance is neutral. However, market adjustments, the CAPM and

Market Model, with equally or capitalization weighted indexes, all produce biased results. Event studies are most exposed to such bias when the measurement interval is long, event securities differ systematically in size or weighting from the index constituents, the size effect is large and/or volatile, and when CAPM-type methodologies are used. These distortions are avoided by explicitly controlling for size. *J. Finan. Econ.*, Sept. 1986, 17(1), pp. 113-42. London Business School.

Dunn, Kenneth B. and Singleton, Kenneth J.—Modeling the Term Structure of Interest Rates under Non-separable Utility and Durability of Goods

The term structure relations implied by a model in which preferences are nonseparable functions of the service flows from two goods are investigated. The parameters characterizing preferences are estimated and restrictions on the co-movements of consumption and Treasury bill returns are examined. Both the durability of goods and the nonseparability of preferences are important factors in explaining the time paths of individual returns, but there is substantial evidence against the cross-sectional restrictions implied by this model. Differences between sample mean returns are too large relative to the sample covariances of the return differences and the marginal utility of consumption. *J. Finan. Econ.*, Sept. 1986, 17(1), pp. 27-55. Carnegie-Mellon University; Carnegie-Mellon University and National Bureau of Economic Research.

Elmer, Peter J.—Preferred Stock Arbitrage of Municipal Bond Market Segmentation

This paper discusses how tax and regulatory constraints in the municipal bond market can affect preferred-stock yields and give rise to arbitrage opportunities in the preferred-stock market. The potential for profit is illustrated with an example that also serves to highlight the unique characteristics of recently developed forms of preferred stock. *Financial Rev.*, Nov. 1986, 21(4), pp. 383-96. Federal Home Loan Mortgage Corporation.

Fama, Eugene F.—Term Premiums and Default Premiums in Money Markets

There are time-varying term and default premiums in the expected returns on money market securities. Default premiums decline with maturity and tend to be higher during recessions. Term premiums tend to increase with maturity during good times, but humps and inversions in the term structure of expected returns are common during recessions. Treasury bills produce positive average term premiums for the overall sample, but average term premiums for private issuer securities are close to 0.0. A general conclusion is that variation in forward rates is primarily variation in current expected returns rather than in forecasts of changes in interest rates. *J. Finan. Econ.*, Sept. 1986, 17(1), pp. 175-96. University of Chicago.

French, Kenneth R. and Roll, Richard—Stock Return Variances: The Arrival of Information and the Reaction of Traders

Asset prices are much more volatile during exchange trading hours than during nontrading hours. This paper considers three explanations for this phenomenon: (1) volatility is caused by public information, which is more likely to arrive during normal business hours; (2) volatility is caused by private information, which affects prices when informed investors trade; and (3) volatility is caused by pricing errors that occur during trading. Although a significant fraction of the daily variance is caused by mispricing, the behavior of returns around exchange holidays suggests that the arrival of private information is the principle factor behind high trading-time variances. *J. Finan. Econ.*, Sept. 1986, 17(1), pp. 5-26. University of Chicago; University of California, Los Angeles and Goldman, Sachs & Co., New York.

Haddad, Kamal M.—The Treasury's Constant-Maturity Yield Curves: A Test for Systematic Measurement Errors

The U.S. Department of Treasury's published yield series has been a key input into empirical studies of the term structure and bond market efficiency. These indexes also are important inputs into Treasury pricing of new debt issues. Since these yield series are interpolated from yield curves, the yields are open to potential measurement errors. This paper tests for systematic bias in the Treasury's yield curves

by comparing estimates from the Treasury's yield curves to actual market yields on a sample of government securities. For both an exact and inexact maturity sample, the Treasury's published yield series did not differ significantly from actual yields. *Quart. J. Bus. Econ.*, Autumn 1986, 23(4), pp. 3-13. San Diego State University.

Hess, Alan C. and Bhagat, Sanjai—Size Effects of Seasoned Stock Issues: Empirical Evidence

This paper reports estimates of cross-sectional relations between relative issue size and abnormal returns for several periods surrounding the announcement and issue days of seasoned stock offerings. For utility issues there is a significant, positive relative size effect during the announcement period; there are no significant size effects in any other period. For industrial issues, both primary and combination, there are no significant relative size effects in any period. The omitted variable analysis identifies feasible combinations of equity demand schedule slopes, correlations between information and relative issue size, and whether the information signaled by the announcement is good or bad. Utility announcements signal information that is positively correlated with relative issue size. No unambiguous conclusions can be drawn for industrial announcements. *J. Bus.*, Pt. 1, Oct. 1986, 59(4), pp. 567-84. University of Washington; University of Utah.

Ho, Thomas S. Y. and Lee, Sang-bin—Term Structure Movements and Pricing Interest Contingent Claims

This paper derives a general class of arbitrage-free interest rate movements models (AR models). These models take the complete term structure as given and derive the subsequent stochastic movement of the term structure such that the movement is arbitrage free. The authors then show how they can be used to price interest contingent claims relative to the observed complete term structure of interest rates. They also study the behavior and the economics of a particular AR model. This approach can be used to price a broad range of interest rates contingent claims, including bond options and callable bonds. *J. Finance*, Dec.

1986, 41(3), pp. 1011-29. New York University; Korea Economic Research Institute, Seoul.

Holthausen, Robert W. and Leftwich, Richard W.—The Effect of Bond Rating Changes on Common Stock Prices

The evidence in this paper suggests that downgrades by both Moody's and Standard and Poor's are associated with negative abnormal stock returns in the two-day window beginning the day of the press release by the rating agency. Significant negative abnormal performance can still be detected after eliminating observations containing obvious concurrent (potentially contaminating) news releases. There is little evidence of abnormal performance on announcement of an upgrade. Significant abnormal returns are associated with announcements of additions to the Standard and Poor's Credit Watch List, if either a potential downgrade or a potential upgrade is indicated. *J. Finan. Econ.*, Sept. 1986, 17(1), pp. 57-89. University of Chicago.

Huffman, Gregory W.—A Dynamic Equilibrium Model of Asset Prices and Transaction Volume

A dynamic general equilibrium model of capital asset pricing is constructed in which the volume of capital traded is determined endogenously. The model also gives rise to a novel asset pricing formula. It is shown that temporary shocks can give rise to serially correlated changes in the price of capital and transaction volume that persist long after the initial disturbance. The frequency and amplitude of the resulting cycles are related to the length of the agent's planning horizon and the discount factor. The model's implications for explaining asset price volatility are also explored. *J. Polit. Econ.*, Feb. 1987, 95(1), pp. 138-59. University of Western Ontario, London, Ontario.

Kalay, Avner and Loewenstein, Uri—The Informational Content of the Timing of Dividend Announcements

This paper contains a test of a new aspect of the informational content of dividends; namely, is there information in the timing of the announcements. The empirical evidence indicates that the market expects "bad news" to be deliv-

ered late and that these expectations are confirmed. Mean excess returns of stock prices around late announcements are, depending on the assumed returns generating process, either significantly negative or insignificant while significantly positive around the entire population of announcements. Moreover, the proportion and magnitude of dividend reductions associated with late announcements are significantly larger than the complete universe of announcements. *J. Finan. Econ.*, July 1986, 16(3), pp. 373-88. New York University and Tel-Aviv University; University of Utah.

Karpoff, Jonathan M.—A Theory of Trading Volume

The theory describes two distinct ways informational events can affect trading volume: investors disagree about the information or have different prior expectations about it. Simulation tests support the model, and are used to contrast costless market clearing with a trading environment in which information is costly and agents randomly encounter potential trading partners. Volume is lower in the costly market, and increases in volume caused by an informational event persisting after the event period. This is consistent with existing empirical evidence, and suggests that markets do not immediately clear all orders or that investors have demands to recontract. *J. Finance*, Dec. 1986, 41(5), pp. 1069-87. University of Washington, Seattle.

Keim, Donald B. and Stambaugh, Robert F.—Predicting Returns in the Stock and Bond Markets

Several predetermined variables that reflect levels of bond and stock prices appear to predict returns on common stocks of firms of various sizes, long-term bonds of various default risks, and default-free bonds of various maturities. The returns on small-firm stocks and low-grade bonds are more highly correlated in January than in the rest of the year with previous levels of asset prices, especially prices of small-firm stocks. Seasonality is found in several conditional risk measures, but such seasonality is unlikely to explain, and in some cases is opposite to, the seasonal found in mean returns. *J. Finan. Econ.*, Dec. 1986, 17(2), pp. 357-90.

University of Pennsylvania; University of Chicago.

Kleidon, Allan W.—Anomalies in Financial Economics: Blueprint for Change?

This paper examines the case for major changes in the behavioral assumptions underlying economic models, based on apparent anomalies in financial economics. Arguments for such changes based on claims of "excess volatility" in stock prices appear flawed for two main reasons: there are serious questions as to whether the phenomenon exists in the first place; and even if it did exist, whether radical change in behavioral assumptions is the best avenue for current research. The paper also examines other apparent anomalies, and suggests conditions under which such behavioral changes are more or less likely to be adopted. *J. Bus.*, Pt. 2, Oct. 1986, 59(4), pp. 5469-99. Stanford University.

Lakonishok, Josef and Vermaelen, Theo—Tax-Induced Trading around Ex-dividend Days

This paper investigates trading volume and around ex-dividend days. For taxable distributions (cash dividends), it is found that trading volume increases significantly around the ex-dividend day. This increase is more pronounced for high-yield, actively traded stocks and after brokerage commissions became negotiable. The results are consistent with the hypothesis that short-term traders have an impact on ex-day price behavior, at least for taxable distributions. For nontaxable distributions (stock splits and stock dividends), the authors find negative abnormal volume around ex-day. *J. Finan. Econ.*, July 1986, 16(3), pp. 287-319. Tel-Aviv University and Cornell University; Catholic University of Leuven.

Langohr, Herwig M. and Viallet, Claude J.—Compensation and Wealth Transfers in the French Nationalizations: 1961-1982

This paper studies the price reaction of French common stocks to the recent nationalization program and estimates the value that nationalized firms would have had if the nationalization program had not occurred. It finds that expropriated holders of the nationalized portfolio received a government-legislated takeover

premium of about 20 percent. Premiums received for individual firms ranged from -3 to 44 percent. Industrial firm shareholders benefited most from the program. The conditions surrounding the premium dispersion raise questions about equal treatment among expropriated shareholders. *J. Finan. Econ.*, Dec. 1986, 17(2), pp. 273-312. INSEAD, Fontainebleau, France.

Lo, Andrew W.—Statistical Tests of Contingent-Claims Asset-Pricing Models: A New Methodology

A new methodology for statistically testing contingent claims asset-pricing models based on asymptotic statistical theory is proposed. It is introduced in the context of the Black-Scholes option pricing model, for which some illustrative estimation, inference, and simulation results are also presented. The proposed methodology is then extended to arbitrary contingent claims by first considering the estimation problem for general Ito processes and then deriving the asymptotic distribution of a general contingent claim which depends upon such Ito processes. *J. Finan. Econ.*, Sept. 1986, 17(1), pp. 143-73. University of Pennsylvania.

Mankiw, N. Gregory—The Equity Premium and the Concentration of Aggregate Shocks

This paper examines an economy in which aggregate shocks are not dispersed equally throughout the population. Instead, while these shocks affect all individuals *ex ante*, they are concentrated among a few *ex post*. The equity premium in general depends on the concentration of these aggregate shocks; it follows that one cannot estimate the degree of risk aversion from aggregate data alone. These findings suggest that the empirical usefulness of aggregation theorems for capital asset pricing models is limited. *J. Finan. Econ.*, Sept. 1986, 17(1), pp. 211-19. Harvard University and National Bureau of Economic Research.

Narayanan, C. R. and Phillips, Herbert E.—CAPM, Valuation of Firms, and Financial Leverage

The irrelevance of capital structure in determining the value of the firm first was demonstrated by Franco Modigliani and M. Miller.

Using the capital asset pricing model, R. Hamada shows that the assumption of homogenous risk class is not necessary for the validity of the Modigliani and Miller propositions. Hamada's proof, however, applies only to the case of a single firm altering its financial leverage. This paper generalizes Hamada's results to the multifirm case. An implication is that the systematic risk of the stocks is affected by the financial leverage of all firms, in addition to the firm's financial leverage. Further, changes in the financial leverage of firms can alter the distribution of returns of the market portfolio. *Quart. J. Bus. Econ.*, Winter 1987, 26(1), pp. 86-93. University of Akron; Temple University.

Pruitt, Stephen W.; Reilly, Robert J. and Hoffer, George E.—Security Market Anticipation of Consumer Preference Shifts: The Case of Automotive Recalls

This study presents an empirical analysis of the financial impact of automotive recall announcements on the equity holders of the firm's domestic and foreign competitors. Because earlier research has documented both sales increases and decreases for competitive models following automotive recalls (depending upon the classification and time period of the announcement), the study was designed specifically to determine the market's ability to properly discriminate at the time of announcement between virtually identical recall events which were later determined to have resulted in differential *ex post* realizations. *Quart. J. Bus. Econ.*, Autumn 1986, 25(4), pp. 14-28. University of North Florida; Virginia Commonwealth University; Virginia Commonwealth University.

Smirlock, Michael and Starks, Laura—Day-of-the-Week and Intraday Effects in Stock Returns

This study examines day-of-the-week effects using hourly values of the Dow Jones Industrial Average. The authors find that over the 1963-83 period the weekend effect has shifted from characterizing active trading on Monday to characterizing the nontrading weekend. Over the early part of our sample period negative returns characterize each hour of trading on Monday while the return from Friday close to

Monday open is positive. In the most recent subperiod, Monday average hourly returns after noon are all positive and the weekend effect is due to negative average returns from Friday close to Monday open. *J. Finan. Econ.*, Sept. 1986, 17(1), pp. 197-210. University of Pennsylvania; Washington University, St. Louis.

314 Financial Intermediaries

Brickley, James A. and James, Christopher M.—Access to Deposit Insurance, Insolvency Rules and the Stock Returns of Financial Institutions

This paper analyzes how access to deposit insurance affects the common stock returns of financial institutions during periods of financial distress. During periods of distress the definition of insolvency used by insuring agencies may be modified to avoid a substantial number of bank failures. These modifications can increase the value of future deposit guarantees and affect the behavior of stock returns of banks and S&Ls. This hypothesis is examined using S&L data for the 1976 through 1983 period. Modification of insolvency rules applied to S&Ls appears to have reduced significantly the co-movement of S&L stock returns with S&L portfolio holdings. *J. Finan. Econ.*, July 1986, 16(3), pp. 345-71. University of Utah; University of Oregon.

315 Credit to Business, Consumer, etc. (including mortgages)

Ramaswamy, Krishna and Sundaresan, Suresh M.—The Valuation of Floating-Rate Instruments: Theory and Evidence

A framework for valuing floating-rate notes is developed to examine the effects of: (1) lags in the coupon formula; (2) special contractual features; and (3) default risk. Evidence from a sample of floaters indicates they sold at significant discounts. While lags in the coupon formulas and other contractual features make these notes more variable, they do not account for the magnitude of the discounts. The authors conclude that the fixed default premium in the coupon formula of a typical note is inadequate to compensate for time-varying default premiums demanded by investors, who treat other corporate short-term paper as close substitutes. *J. Finan. Econ.*, Dec. 1986, 17(2), pp. 251-72.

University of Pennsylvania; Columbia University.

320 FISCAL THEORY AND POLICY; PUBLIC FINANCE

321 Fiscal Theory and Policy

Batina, Raymond G.—The Optimal Linear Income Tax with Tax Credits Contingent on Fertility

The literature on the optimal linear income tax is extended by incorporating tax credits contingent on the number of dependents the taxpayer is responsible for. The choice over how many dependents to be responsible for is made endogenous by allowing the taxpayer choice over their own fertility. Formulae are derived governing the government's optimal choice of the labor income tax rate and the tax credit contingent on fertility. If the government ignores fertility behavior, it will choose a lower than optimal tax rate on labor under certain conditions. *J. Public Econ.*, July 1986, 30(2), pp. 219-35. Washington State University, Pullman, Washington.

Bhatia, Kul B.—Taxes, Intermediate Goods, and Relative Prices: The Case of Variable Coefficients

Price effects of an output tax in one industry and an equivalent subsidy in the second industry are analyzed in a general equilibrium model. Each commodity satisfies final demand and uses two primary inputs and the other good as an intermediate product. Production coefficients are variable and demand is elastic. In a Leontief model with fixed coefficients, L. A. Metzler showed that price of the taxed good will rise and price of the subsidized good will fall. This result holds under less restrictive conditions also, although it is sometimes reversed. How the topic relates to the tax incidence literature is also discussed. *J. Public Econ.*, Nov. 1986, 31(2), pp. 197-213. University of Western Ontario, London, Ontario.

Caniglia, Alan S.—A Common Fallacy about In-Kind Subsidies: A Housing Programs Application

A general conclusion in public finance is that a recipient's level of well being will be smaller with an in-kind subsidy than with a cash grant of equal size. This paper shows that this is not

necessarily the case when the in-kind subsidy is of a public good within a recipient collectivity. This may occur if a locality is the recipient of an intergovernmental grant or a family is the recipient of benefits under a welfare program, and is caused by the presence of the public good and the collective decision-making process that results. *Eastern Econ. J.*, Apr.-June 1986, 12(2), pp. 149-57. Franklin and Marshall College.

Cunningham, Thomas J.—Growing Out of Deficits: Debt Dynamics in a Disequilibrium Model

This paper presents a model of income and government debt dynamics in a stylized, Keynesian economy. The purpose of the discussion is to describe certain conditions under which the economy will grow out of a present government deficit as it approaches its equilibrium. The conditions are applied to the beginning of the "supply-side" fiscal experiment in the early 1980s, as well as more recent economic conditions. *J. Post Keynesian Econ.*, Winter 1986-87, 9(2), pp. 297-306. Federal Reserve Bank of Atlanta.

Erbas, S. Nuri—Inflationary Finance of Budget Deficits as an Automatic Stabilizer

A rational expectations model is presented to generalize B. T. McCallum and J. K. Witter's (1979) model. The model demonstrates the effectiveness and stability of the full-employment budget deficit and of inflationary finance used to finance this deficit as automatic stabilizers in the determination of current income under rational expectations. Within the same model the problem of optimal dynamic stochastic monetary policy is also briefly explored. *J. Monet. Econ.*, Sept. 1986, 18(2), pp. 197-204. University of Houston—University Park.

Feltenstein, Andrew—An Intertemporal General Equilibrium Analysis of Financial Crowding Out: A Policy Model and an Application to Australia

This paper constructs a two-period, perfect foresight general equilibrium model that analyzes crowding out. Private investment is debt financed, while government deficits are financed by money and debt. The existence of

equilibrium is demonstrated and the model is applied to Australia for 1981-82, the last years for which Australia had a fixed exchange rate. A benchmark solution is derived and two counterfactual simulations are carried out. Small increases in real government spending are found not to lead to crowding out, while an increase in the debt financed portion of the government's budget deficit does lead to crowding out. *J. Public Econ.*, Oct. 1986, 31(1), pp. 79-104. University of Kansas, Lawrence.

Findlay, Christopher C.—Optimal Taxation of International Income Flows

The questions asked are whether double taxation is appropriate and whether cooperation is required to reach the optimal solution. Generally, some double taxation is desirable, as long as taxes are applied at the appropriate rates, and an efficient solution can be attained in the absence of explicit cooperation using a deduction rule, instead of the now commonly used credit rule. A rationale for the current system of tax agreements and their emphasis of the credit rule is discussed. *Econ. Rec.*, June 1986, 62(177), pp. 208-14. University of Adelaide, Australia.

Fourgeaud, C.; Lenclud, B. and Picard, P.—Shadow Prices and Public Policies in a Disequilibrium Model of an Open Economy

The paper focuses on the interaction between the goals of optimal stabilization and of allocative efficiency in project evaluation, in an economy that is small as an exporter, which must maintain trade balance, and where some disequilibrium may prevail on goods and labor markets. The criteria that are developed reflect an aggregation of profitability and reduction of unemployment. Additional foreign demand, foreign currency savings should be evaluated in welfare terms after weighting by the gap between the relevant market and shadow prices. The shadow prices also lead to the definition of an optimal taxation system. *Europ. Econ. Rev.*, Oct. 1986, 30(5), pp. 991-1012. University of Paris-I and CEPREMAP; University of Paris-I; University of Rouen and CEPREMAP.

Hammond, Peter J.—Project Evaluation by Potential Tax Reform

Shadow prices are derived for small open economies with several production sectors experiencing constant returns to scale. Small projects affect the balance of trade, domestic prices (of nontraded goods and factors), and sector scales. Only domestic prices affect welfare, and only if there is not "domestic price equalization." Generally, a project's net benefits depend upon the potential tax (and tariff) reform made possible (or necessary) through the balance-of-trade effect. Border prices are right for traded goods, but domestic good shadow pricing requires knowing the direction of at least one reversible available tax reform, and presuming optimality with respect to available reforms. *J. Public Econ.*, June 1986, 30(1), pp. 1-36. Stanford University.

Heady, Christopher J. and Mitra, Pradeep K.—Optimal Taxation and Public Production in an Open Dual Economy

The paper derives rules for organizing public production, setting taxes and offsetting labor market distortions in an open dual economy. Production efficiency is shown to obtain for the taxable part of the economy, a generalized Ramsey rule derived for producing-cum-consuming households in the directly nontaxable sector and new characterizations of optimal rural-urban migration established in the presence of distortionary taxation. A simple general equilibrium model is then numerically implemented and used to test the sensitivity of the analytically derived optimal policies to alternative assumptions about government revenue requirements, tax restrictions, the nature of property rights, and technological substitution possibilities. *J. Public Econ.*, Aug. 1986, 30(3), pp. 293-316. University College, London; World Bank.

Hellwig, Martin F.—The Optimal Linear Income Tax Revisited

The paper shows that the Mirrlees-Seade conditions of agent monotonicity and noninferiority of leisure imply the positivity of the optimal marginal income tax rate in Sheshinski's model of linear income taxation as well as in the general model. The optimal marginal tax rate is bounded above by the Rawlsian rate, which in turn is bounded by the revenue-maximizing rate. The optimal marginal tax rate may

be arbitrarily close to the Rawlsian rate. However, the optimal marginal tax rate is bounded away from the revenue-maximizing rate whenever the individual with the lowest ability works. *J. Public Econ.*, Nov. 1986, 31(2), pp. 163-79. University of Bonn.

Kimbrough, Kent P.—The Optimum Quantity of Money Rule in the Theory of Public Finance

This paper examines optimal tax policy in a monetary economy in which money serves as an intermediate good that helps facilitate the conversion of scarce resources into final consumption goods by enabling consumers to economize on the costs of transacting. It is shown that in such an environment, even though distorting taxes must be levied for revenue purposes, the optimal tax structure calls for abstaining from inflationary finance and adopting the optimum quantity of money rule. *J. Monet. Econ.*, Nov. 1986, 18(3), pp. 277-84. Duke University.

King, Mervyn A.—A Pigovian Rule for the Optimum Provision of Public Goods

The integrated treatment of optimal taxation and public expenditure presented here is based on the dual relationship between the prices of private goods and the quantities of public goods. The conditions for optimum public good provision can be expressed as a modification of the Samuelson conditions with extra terms representing: (1) the distortionary effect of taxes on the willingness to pay for the public good and (2) distributional effects. The former captures A. C. Pigou's notion of the indirect damage caused by the need to finance public expenditure out of distortionary taxes, and the author calls this the "Pigou term." In certain cases, a very simple benefit-cost ratio for public projects emerges that is equivalent to measuring benefits as if they were taxed. *J. Public Econ.*, Aug. 1986, 30(3), pp. 273-91. London School of Economics.

Laffont, Jean-Jacques and Tirole, Jean—Une Théorie Normative des Contrats État-entreprises (A Normative Theory of State-Firms Contracts).

The authors develop progressively models enabling us to characterize optimal contracts between government and firms when uncertainty and various types of asymmetric information (moral hazard and adverse selection) are present. Normative contracts, with a linear sharing of overruns, are obtained. *Ann. Econ. Statist.*, Jan.-Mar. 1986, (1), pp. 107-32 (French). GREMAQ, University of Social Sciences of Toulouse; Massachusetts Institute of Technology.

Logan, Robert R.—Fiscal Illusion and the Grantor Government

Empirical studies indicate that unconditional intergovernmental grants have a flypaper effect. Several authors have modeled recipient government spending under the fiscal illusion to explain this phenomenon. In short, grants reduce the perceived marginal cost of recipient government output. This paper develops a more general model of illusion that incorporates the grantor government, thereby eliminating inconsistencies encountered in previous models. The more general model implies that grant finance increases the perceived marginal cost of grantor government output. Thus grant-induced illusion should have two effects: an increase in recipient output and a decrease in grantor output. The empirical work supports this hypothesis. *J. Polit. Econ.*, Dec. 1986, 94(6), pp. 1304-18. University of Alaska, Fairbanks and University of Iowa.

Mookherjee, Dilip—Shadow Pricing with Sub-optimal Policy Rules

This paper aims to clarify different views on the validity of the Little-Mirrlees border price rule for project evaluation in a context where the government chooses its controls suboptimally in a systematic fashion. The rule is shown to be valid quite generally for small public sector projects when the government's response restores market-clearing in nontradeables and foreign exchange. It can be invalid in contexts of: (1) nonmarket clearing or (2) private sector projects that generate profits distributed to households. In the latter case, special treatment of profit effects is required along the lines suggested by I. Little and J. Mirrlees. *J. Public Econ.*, Dec. 1986, 31(3), pp. 287-305. Stanford University.

Moulin, Hervé—Characterizations of the Pivotal Mechanism

The pivotal mechanism is strategy proof (demand revealing) in public decision problems where preferences are quasi-linear. Moreover, no agent has an incentive to "free ride" by withdrawing from the committee and consuming whatever decision is taken by the remaining agents. Strategyproofness plus "no free ride" characterize the pivotal mechanism. This mechanism is anonymous and neutral. Yet together strategyproofness, anonymity and neutrality do not characterize it. They will, however, if reasonable lower (or upper) bounds on final utilities are imposed. The last characterization of the pivotal mechanism uses the "no free ride" axiom and two mild monotonicity properties, but not strategyproofness. *J. Public Econ.*, Oct. 1986, 31(1), pp. 53-78. Virginia Polytechnic Institute and State University.

Svensson, Lars-Gunnar and Weibull, Jörgen W.—An Upper Bound on Optimal Income Taxes

This paper identifies a range of tax rates that can be disregarded in linear optimal taxation approaches before any interpersonal utility comparisons are made. In particular, no tax rate above a certain level $\beta < 1$ can be optimal with respect to Pareto-inclusive social orderings. It is shown that β is in general not larger than, and sometimes strictly less than, the minimal tax rate that maximizes tax revenues. Conditions under which β is the least upper bound are given, and a comparison is made with tax rates obtained by the Rawlsian maximin principle. *J. Public Econ.*, July 1986, 30(2), pp. 165-81. Lund University, Sweden; Institute for International Economic Studies, Stockholm University.

Tesfatsion, Leigh—Time Inconsistency of Benevolent Government Economies

A dynamic Walrasian economy is said to exhibit inconsistency if the competitive equilibrium path resulting from government reoptimization at some time $\tau > 0$ is not a continuation of the competitive equilibrium path resulting from the initial government optimization at time 0. Necessary and sufficient conditions for consistency are established for a general class

of dynamic Walrasian benevolent government economies. Reliance on nondistortionary policy instruments is seen to be neither necessary nor sufficient for consistency. It is also shown that consistency is necessary but not sufficient for the support of a Pareto-optimal path as an optimal competitive equilibrium path. *J. Public Econ.*, Oct. 1986, 31(1), pp. 25-52. University of Southern California.

Throsby, C. D. and Withers, Glenn A.—Strategic Bias and Demand for Public Goods: Theory and an Application to the Arts

This paper provides systematic definition of free-rider and other biases in eliciting demand for public goods. It also demonstrates practicable techniques for allowing for these effects via survey method. In an application to the case of valuing social benefits from the arts, the extent of the biases is calibrated. This enables corrected estimates of public good benefit to be reported for the arts. An especially interesting finding is that free-rider behavior is random with respect to observable individual characteristics. *J. Public Econ.*, Dec. 1986, 31(3), pp. 107-27. Macquarie University, North Ryde, Australia; La Trobe University, Bundoora, Australia.

Uomala, Matti—On the Optimal Taxation and Educational Decisions

The author considers three different ways of incorporating individuals' educational choices into the design of optimal income tax policy. In one variant of the model it is shown that the marginal tax rate is generally not zero at the endpoints of distribution, but is most likely negative. Using numerical methods it is shown that the marginal tax rate is nondecreasing in income for a substantial income range. In addition, the calculations support neither the traditional views on the egalitarian nature of equal education nor its disadvantageous consequences in the perfect utilitarian society. *J. Public Econ.*, July 1986, 30(2), pp. 183-98. University of Helsinki.

Yabser, Dan—Tax Evasion and the Marginal Cost of Public Funds

Tax evasion and deadweight loss have similar consequences for the rules of public finance.

The optimal mix of taxes can be derived from the minimization of the sum of aggregate deadweight loss and aggregate cost of tax evasion. Similarly, the marginal cost of public funds includes allowances for marginal deadweight loss and marginal cost of tax evasion per dollar of public revenue acquired. *Econ. Inquiry*, Oct. 1986, 24(4), pp. 563-86. Queens University.

Weymark, John A.—A Reduced-Form Optimal Nonlinear Income Tax Problem

For a finite population with quasilinear preferences, it is shown how Mirrlees' optimal nonlinear income tax problem can be simplified to a reduced-form problem involving only the allocation of the consumption good. This result is a finite version of a proposition established in the continuum by S. Lollivier and J.-C. Rochet. *J. Public Econ.*, July 1986, 30(2), pp. 199-217. University of British Columbia and Northwestern University.

Zodrow, George R.—Implementing Tax Reform: The Intergenerational Carryover Problem

The implementation of tax reform may cause a "carryover problem" when previously taxed income is taxed again under the new tax regime; for example, the imposition of a cash flow consumption tax would double tax withdrawn savings originally financed with after-tax dollars. This paper analyzes the optimal implementation of a reform that causes such an "intergenerational" carryover problem and demonstrates that phasing-in is likely to be the optimal reform implementation policy. This result contrasts sharply with the case where the major problem induced by reform is arbitrary changes in asset prices, where phasing-in is generally of no benefit. *Nat. Tax J.*, Dec. 1986, 39(4), pp. 419-33. U.S. Treasury Office of Tax Analysis and Rice University.

322 National Government Expenditures and Budgeting

Morrison, Rodney J.—Fiscal Marksmanship in the United States: 1950-83

In this paper Theil's inequality coefficient is used to measure the accuracy of estimates of outlays, receipts, and deficits and surpluses in federal budgets in the United States for the

period 1950-83. In addition to evaluating overall fiscal marksmanship, actual forecast errors are partitioned into their three components: bias, variance, and randomness. The results obtained indicate that long-term forecasts were not very reliable signals of federal fiscal activity and that nonrandom sources accounted for at least 25 percent of the forecast error in 40 percent of the cases studied. *Manchester Sch. Econ. Soc. Stud.*, Sept. 1986, 54(3), pp. 322-33. Wellesley College.

323 National Taxation, Revenue, and Subsidies

Bacconche, Rafiq and Laisney, François—Analyse microéconomique de la réforme de la TVA de juillet 1982 en France (Microeconomic Analysis of the French VAT Reform of July 1982).

The effects of the reform on the welfare of households are analyzed with the INSEE survey "Budgets des familles 1979," using the methodology of M. A. King (1983) applied to a linear expenditure system where all parameters vary with household characteristics. The evaluation of global consequences of the reform uses indices of vertical inequality and horizontal inequity. The study indicates a slight redistributive effect. Most households benefit from the reform, but households with children are particularly advantaged. *Ann. Econ. Statist.*, Apr./June 1986, (2), pp. 37-74 (French). GREMAQ, University of Social Sciences, Toulouse.

Barro, Robert J. and Sahasakul, Chaipat—Average Marginal Tax Rates from Social Security and the Individual Income Tax

The authors extend previous estimates of the average marginal tax rate from the federal individual income tax to include social security. The computations consider the tax rates on employers, employees, and the self-employed; the income that accrues to persons with earnings below the ceiling; and the effective deductibility of employers' social security contributions from workers' taxable income. The net effect of social security on the average marginal tax rate is below .02 until 1966, but then rises to .03 in 1968, .04 in 1973, .05 in 1974, .06 in 1979, and .07 in 1982. *J. Bus.*, Pt. 1, Oct. 1986, 59(4), pp. 555-66. University of Rochester; Rutgers University.

Bovenberg, Arij Lans—Capital Income Taxation in Growing Open Economies

This paper studies how alternative capital mobility assumptions affect the incidence and efficiency of capital income taxation. It uses two-country intertemporal equilibrium model in which imperfectly elastic investment captures the notion of imperfectly mobile physical capital. If home goods and foreign goods are perfect substitutes and investment is relatively inelastic, tax effects in open and closed economies are similar. Only if physical capital is perfectly mobile are capital income taxes completely shifted in small open economies. Only, then, and if significant terms of trade effects are absent, do open economy efficiency losses substantially exceed closed economy losses. *J. Public Econ.*, Dec. 1986, 31(3), pp. 347-76. International Monetary Fund.

Fullerton, Don and Lyon, Andrew B.—Uncertain Parameter Values and the Choice among Policy Options

The authors use a tax policy example to show how debate on the value of an elasticity parameter translates into a debate about policy choices. To construct this example, suppose that the choice among four particular tax reform options is based on a single measure of efficiency gain. For each reform, it is shown how the size of this gain depends upon the elasticity of saving with respect to the net rate of return. Moreover, within quite narrow and reasonable bounds for the elasticity parameter, the authors find regions in which each of three different tax reforms turns out to dominate the others. *J. Public Econ.*, June 1986, 30(1), pp. 109-16. U.S. Treasury Department; U.S. Congress.

Pressman, Steven—A Tale of Two Taxpayers: The Effects of the Economic Recovery and Tax Act of 1981.

Although ERTA gave wealthy taxpayers the largest reductions in marginal tax rates, effective tax rates have fallen more for middle class taxpayers. This paper examines the reasons for this phenomenon. Most importantly, lower marginal rates reduced charitable contributions and borrowing by wealthy taxpayers. This reduced their itemized deductions and increased their taxes. For middle class taxpayers, more

liberal adjustments to income lowered effective tax rates. Contrary to the claims of supply-side economists, there were no discernible income effects from the 1981 tax cut. *J. Post Keynesian Econ.*, Winter 1986-87, 9(2), pp. 228-36. Monmouth College, West Long Branch, New Jersey.

Sahasakul, Chaipat—The U.S. Evidence on Optimal Taxation over Time

This paper considers a tax rule in which a uniform tax rate over time becomes optimal. Its implications are that: (1) changes in the tax rate should arise only when there are changes in permanent government expenditures and (2) no variable other than permanent government expenditures should be of any value in predicting the tax rate. These implications are tested, using U.S. data for 1937-82. Empirical results of the tests reveal that, in addition to responding to permanent government expenditures, the tax rate also responds to temporary defense purchases, the general price level, and a time trend. *J. Monet. Econ.*, Nov. 1986, 18(3), pp. 251-75. Rutgers University, Newark, New Jersey.

Warren, Alvin C., Jr.—The Timing of Taxes

This paper considers the conditions under which the deferral or acceleration of a tax will not affect its present value. Expenditure and wage taxation, estate and gift taxation, dividend taxation, income taxation of deferred compensation, and income taxation of insurance companies are examined to draw some general conclusions about the significance of their common attributes for tax policy analysis. *Nat. Tax J.*, Dec. 1986, 39(4), pp. 499-505. Harvard University.

324 State and Local Government Finance

Benker, Karen M.—Tax Expenditure Reporting: Closing the Loophole in State Budget Oversight

In recent years, states have developed and improved budget oversight tools to strengthen control over public expenditures. However, despite these efforts, there is an area of the budget that routinely escapes rigorous inspection. This is the large allocation of state resources through

the use of tax expenditures, which reduce the taxes which might otherwise be collected. The federal government and seventeen state governments have begun the process of conducting an inventory and cataloguing all deviations from the normal tax code. These tax expenditure reports supplement the annual or biennial budget document. This article examines the major features of tax expenditure reporting at the state level. *Nat. Tax J.*, Dec. 1986, 39(4), pp. 403-17. National Association of State Budget Officers.

Follain, James R. and Miyake, Tamar Emi—Land versus Capital Value Taxation: A General Equilibrium Analysis

This paper analyzes via a computable general equilibrium model the effects of a reduction of the Jamaican income tax in favor of either a land value tax or a capital value tax. Important conclusions include: (1) There is less revenue potential from an LVT than from a CVT; (2) the welfare gains from the LVT are sensitive to the type of economy; and (3) the declines in deadweight loss that result from a switch to a CVT are modest, and it is possible that deadweight loss increases. This analysis also examines the effects of such a switch upon resource allocation and income distribution. *Nat. Tax J.*, Dec. 1986, 39(4), pp. 451-70. University of Illinois; New York State Assembly.

Gordon, Roger H. and Wilson, John Douglas—An Examination of Multijurisdictional Corporate Income Taxation under Formula Apportionment

This paper examines how corporate taxation of multijurisdictional firms using formula apportionment affects the incentives facing individual firms and states. Formula apportionment creates factor price distortions that vary across firms within a state in a way that gives a competitive advantage to multistate firms. Incentives for cross-hauling of output are also created, with production in low tax rate states more profitably sold in high tax rate states, and conversely. Politically, formula apportionment is very unstable—states face an incentive to shift to another form of taxation. None of these problems exist when a corporate tax uses separate accounting. *Econometrics*, Nov. 1986, 54(6),

pp. 1357-73. University of Michigan; Indiana University.

Hildred, William M. and Pinto, James V.—
Passive Tax Expenditures: Estimates of
States' Revenue Losses Attributable to Fed-
eral Tax Expenditures

States that tax personal income and link their definitions of taxable income and allowable deductions to the definitions in the federal tax code suffer significant revenue losses because of that linkage. This article presents estimates of the revenue lost by each state, and argues that these passive tax expenditures are undesirable because they are inefficient and because states do not control their own tax bases. *J. Econ. Issues*, Dec. 1986, 20(4), pp. 941-52. Central State University, Edmond, Oklahoma; Northern Arizona University.

Mikesell, John L.—Amnesties for State Tax
 Evaders: The Nature of and Response to Recent Programs

Since 1981, twenty-five states have conducted or have authorized formal amnesties under which businesses and individuals could pay prior tax liabilities without the penalties normally associated with tax evasion or nonobservance. Structural features of the programs have varied widely, however, as have the results in yields and impact on equity. This paper examines the structural components of each program and compiles yield data for the programs. Analysis shows that whether accounts receivable are eligible for amnesty is particularly important for yield. Revenue effects, long term as well as short term, and effects on fundamental equity and compliance incentives suggest that some amnesties may have been too broad, but that a number had made a clearly positive effect on tax administration and compliance. *Nat. Tax J.*, Dec. 1986, 39(4), pp. 507-25. Indiana University.

Follock, Richard and Snyderhoud, Jack P.—
The Role of Rainy Day Funds in Achieving
Fiscal Stability

The discussion and design of fiscal stabilization at the state level has been hampered by the absence of an adequate framework to evaluate own-source revenue, expenditures, elasticities,

and cash balances in a longer-run, dynamic context. The lack of clear concepts and measures of fiscal stability is part of this lack of an appropriate framework. The potential for design failures of formula-based rainy day funds documents the danger of not having an adequate analytic paradigm. The authors develop a framework and an objective measure of fiscal stability that helps to fill this analytic gap. Simulations using these analytic tools indicate that formula-based rainy day funds can be destabilizing is not properly implemented. *Nat. Tax J.*, Dec. 1986, 39(4), pp. 485-97. University of Hawaii.

325 Intergovernmental Financial Relationships

Hettich, Walter and Winer, Stanley—Vertical
Imbalance in the Fiscal Systems of Federal
States

A theory of vertical fiscal imbalance in federal states (VFI) is developed that distinguishes between long-run and short-run imbalances and between normative and positive interpretations of the concept. The analysis is carried out in the context of a simple three-sector model where the allocation of national output among sectors results from interaction of a public choice process with an overall resource constraint. The paper proposes welfare-theoretic definitions of long-run and short-run VFI. In addition, it uses the concept as part of a positive analysis in order to reassess broad trends in Canadian fiscal history. *Can. J. Econ.*, Nov. 1986, 18(4), pp. 745-65. California State University; Carleton University, Ottawa.

Hewitt, Daniel—Fiscal Illusion from Grants
 and the Level of State and Federal Expenditures

The theory of fiscal illusion maintains that local grant receipts will increase the demand for local public goods. This paper extends the fiscal illusion thesis to the federal and state levels. Federal or state grants to localities will increase the taxes levied by the donating agency without permitting an associated increase in direct services. If consumer/voters are largely unaware of intergovernmental transfers, grants will make the federal and state governments appear inefficient and thereby decrease demand for federal and state public goods. The hypothe-

sis is tested and confirmed by using survey data to estimate the impact of grants on the demand for state government expenditures. The fiscal illusion tendency is then used to explain observed shifts in the demand for defense expenditures. *Nat. Tax J.*, Dec. 1986, 39(4), pp. 471-83. University of Connecticut.

400 International Economics

410 INTERNATIONAL TRADE THEORY

411 International Trade Theory

Artus, Patrick—Comment fonctionne le marché des exportations? (How Does The Export Market Operate?)

In this paper, several models (perfect or imperfect competition, flexible or fix-price models) for the determination of the level and the price of exports of manufactured goods are developed and estimated. A special interest is given to the link between the situation (price level and level of demand) on the domestic market, the volume and price of exports, and the degree of flexibility of prices. *Ann. Econ. Statist.*, Apr./June 1986, (2), pp. 3-36 (French). Bank of France.

Bowden, Roger J.—An Empirical Model of Bilateral Trade (or Its Absence) in Manufactured Commodities

Trade theories such as factor proportions, Linder, product cycle or gravity explanations are integrated into a compound structural representation, yielding a statistical nesting in which the contributions of different theories can be assessed and tested. Trade flows are disaggregated by origin, destination, and commodity. Censoring elements in the model predict whether or not trade will take place as well as the magnitude of observed trade flows. The method of estimation is maximum likelihood. The results strongly support gravity, partially support elements of factor proportions and Linder, and suggest an interaction between product cycle and Linder explanations. *Manchester Sch. Econ. Soc. Stud.*, Sept. 1986, 54(3), pp. 255-82. University of Western Australia.

Cassing, James—A Note on the Welfare Cost of a Tariff

Although for a small country the imposition of a tariff lowers national income at world prices, the reduction may itself be larger or smaller in the short run than in the long run. This paper exploits a simple quasi-specific factors model in order to isolate the forces at work and to derive the conditions for contemporaneous national welfare to be higher or lower in the longer run. *Eastern Econ. J.*, Apr.-June 1986, 12(2), pp. 145-48. University of Pittsburgh.

Chaudhuri, T. Datta and Khan, M. Ali—Commercial Policy in an Asymmetric World Economy

The authors present a two-country model of international trade and foreign investment with asymmetry in the sense that one of the countries, North, is a capital-rich, resource-poor economy; whereas the other, South, is a resource-rich, labor-surplus economy. The model thus highlights production interdependence as well as dependence through trade. The authors analyze the effects of commercial policies and factor accumulation on the allocation of resources and distribution of income. *J. Econ. (Z. Nationalök.)*, 1986, 46(2), pp. 143-61. University of Calcutta; University of Illinois.

Dinopoulos, Elias and Wooton, Ian—A North-South Model of International Justice

The present paper develops a model with the South producing only a composite good, utilizing technology imported from the North. The North produces both technology and the composite good. It is demonstrated that free trade is not "just" in the Rawlsian sense. Alternative trading schemes, which are designed to maximize the welfare of the South, are examined and the optimal Rawlsian transfer from North to South is calculated. *Can. J. Econ.*, Nov. 1986, 19(4), pp. 766-79. Michigan State University; University of Western Ontario.

Dixit, Avinash K. and Grossman, Gene M.—Targeted Export Promotion with Several Oligopolistic Industries

The authors study export promotion policies in situations where several oligopolistic industries compete for the services of a sector-specific factor of production. The partial equilibrium argument for strategic subsidies must be modified.

led to incorporate general equilibrium effects working through the factor market. It is found that these effects generally weaken the case for profit-sharing subsidies. In a benchmark case with symmetric exporting industries, fixed coefficients technologized and an inelastic supply of the specific factor, free trade is shown to be optimal. *J. Int. Econ.*, Nov. 1986, 21(3/4), pp. 233-49. Princeton University.

Dixit, Avinash K. and Norman, Victor—Gains from Trade without Lump-Sum Compensation

This paper examines the possibility of designing a free-trade equilibrium that is Pareto-superior to a given autarkic one, using r redistributive tools other than lump-sum transfers. It is shown that: (1) if the production frontier allows some nonzero transformation in a neighborhood of autarky, and (2) there is a commodity, pure or composite, for which no two consumers trade on opposite sides of the market, then taxes and subsidies on goods and factors suffice for the purpose. If uniform poll subsidies are available, then condition (2) is not needed. Such policies are compatible with incentive-compatibility constraints, while lump-sum transfers are not. *J. Int. Econ.*, Aug. 1986, 21(1/2), pp. 111-22. Princeton University; Norwegian School of Economics and Business Administration, Bergen, Norway.

Felder, Joseph—Protectionism, Domestic Monopoly, and the Levels of Domestic Production and Consumption

A comparative static analysis is made of a small open economy that adopts protectionist policies, including a ban on international trade in the protected commodity, a prohibition on imports only, a tariff on imports, and a quota on imports. Conditions are identified under which local production and sales decrease under protectionism. Every policy, except possibly autarky, subsidizes ownership of the local industry rather than production or sales, *per se*. This is especially true when the domestic industry consists of just one or a few firms since a monopoly can exploit more fully the profit potential of protection. *Quart. J. Bus. Econ.*, Autumn 1986, 23(4), pp. 77-100. Bradley University, Peoria, Illinois.

Galor, Oded—Global Dynamic Inefficiency in the Absence of International Policy Coordination: A North-South Case

This paper demonstrates that decentralized behavior, reflected in noncoordinated resource pricing and investment strategies, may lead to global dynamic inefficiency. It is shown that in a North-South world, capital accumulation in the North reduces the social cost associated with the presence of labor market imperfections of the Lewis type in the South; whereas, resource pricing in the South affects investment decisions in the North. Thus, international policy coordination is required for attaining global dynamic efficiency. *J. Int. Econ.*, Aug. 1986, 21(1/2), pp. 137-49. Brown University.

Grinols, Earl L.—Foreign Investment and Economic Growth: Characterization of a Second-Best Policy for Welfare Gains

This paper prescribes corrective taxes for immiserizing growth and customs union formation (growth through removal of trade barriers) when the home country and the rest of world are financially linked through foreign investment and ownership of assets. An always feasible policy, which generates Pareto welfare gains for home country residents (and union countries' residents) is found. With foreign ownership, the policy generally requires a specific profits tax in addition to the usual taxes on traded goods and factors. The policy does not harm residents in the rest of the world; growth is Pareto noninferior from the world point of view. *J. Int. Econ.*, Aug. 1986, 21(1/2), pp. 165-71. University of Illinois.

Itoh, Motoshige and Kiyono, Kazuharu—Welfare-enhancing Export Subsidies

This paper shows that export subsidies on marginal goods and those on nonmarginal goods have opposite welfare effects for the country imposing these subsidies, where marginal goods are the ones that would be exported by only a small amount or not at all under free trade, but whose export can be promoted considerably by export subsidies. The former enhances the imposing country's welfare, while the latter worsens it. The paper also throws light on related issues such as industrial targeting policy. *J. Polit. Econ.*, Feb. 1987, 95(1),

pp. 115-37. University of Tokyo; Gakushuin University, Tokyo.

Jensen, Richard and Thursby, Marie C.—A Strategic Approach to the Product Life Cycle

This paper analyzes the steady-state, open-loop Nash equilibrium of a game in which a Northern monopolist devotes resources to a new product development and a Southern planner diverts resources into reverse engineering to learn the technology to produce these. A steady state equilibrium technology gap exists, showing that a constant technology gap over time can be explained by optimal strategic behavior of decisionmakers in a product cycle model. Given resource costs, neither the Northern monopolist nor the Southern planner wants to alter the gap. Comparative steady state analysis is used to compare strategic versus non-strategic behavior. *J. Int. Econ.*, Nov. 1986, 21(3/4), pp. 269-84. Ohio State University.

Kemp, Murray C. and Tawada, Makoto—The World Production Frontier under Variable Returns to Scale

The authors consider the properties of the world production set under conditions of variable returns to scale, with some (but not all) factors internationally mobile. It is shown that, broadly speaking, the world production set has the same properties as the production set of a single closed economy. *J. Int. Econ.*, Nov. 1986, 21(3/4), pp. 251-68. University of New South Wales; Nagoya City University, Japan.

Kemp, Murray C. and Wan, Henry Y., Jr.—Gains from Trade with and without Lump-sum Compensation

It is shown by example that there are situations in which free trade is Pareto-beneficial if, and only if, compensation is effected by lump sum transfers and that there are situations in which free trade is Pareto-beneficial if, and only if, compensation is not lump sum. *J. Int. Econ.*, Aug. 1986, 21(1/2), pp. 99-110. University of New South Wales, Australia; Cornell University.

Makwarung, Lynn—International Trade in New and Used Machines

The paper applies Piero Sraffa's model of fixed capital to the analysis of international trade in machines. A small economy specialized in one final product can purchase machines of any age from a large economy at fixed prices. The appropriate choice of machine age and some implications for income distribution are examined under a variety of circumstances, including positive costs of transporting machines. The consequences of technological progress in the large country are also analyzed. *Cambridge J. Econ.*, Sept. 1986, 10(3), pp. 247-63. University College, Cardiff.

Miyagiwa, Kaz F.—A Reconsideration of the Welfare Economics of a Free-Trade Zone

This paper presents a model of a free-trade zone that incorporates the fact that such zones are often established by government subsidies designed to promote nontraditional exports. In this model the condition is derived under which the establishment of a free-trade zone can increase welfare regardless of the relative factor intensity of a zone-based industry. However, the relative factor intensity of a free-trade zone plays a crucial role in determining the change in welfare following economic growth and foreign investment. *J. Int. Econ.*, Nov. 1986, 21(3/4), pp. 337-50. The University of Dayton.

Rodrik, Dani—Tariffs, Subsidies, and Welfare with Endogenous Policy

It is a well established proposition of trade theory that in the absence of directly trade-related distortions or policy goals subsidies are superior to tariffs for achieving any economic or noneconomic objective. This paper shows that once the endogeneity of the distortion or noneconomic objective is allowed for, the welfare-ranking of various policies can be reversed. The particular model analyzed is one where the level of noneconomic objectives that have to be fulfilled itself depends on the policy tools considered to fulfill them. This arises from the public-good nature of tariffs compared to subsidies. *J. Int. Econ.*, Nov. 1986, 21(3/4), pp. 283-99. Harvard University.

Staiger, Robert W.—Measurement of the Factor Content of Foreign Trade with Traded Intermediate Goods

In a recent article, Elhanan Helpman (1984) develops readily testable bilateral restrictions in a model of international trade, which preserve the spirit of Heckscher-Ohlin trade theory. Important in any empirical exploration of the Heckscher-Ohlin model is the decision of whether to employ direct or direct-plus-indirect calculations in determining the factor content of trade. This paper extends Helpman's analysis to a world of freely traded intermediate goods, and shows that direct factor content calculations are the theoretically appropriate measure for use in evaluating these empirical implications of the Heckscher-Ohlin model. *J. Int. Econ.*, Nov. 1986, 21(3/4), pp. 361-68. Stanford University.

Stockman, Alan C. and Deltas, Harris—Asset Markets, Tariffs and Political Risk

A model with political risk and uncertainty about tariffs implies a relationship between consumption and tariffs that differs radically from the implication of models without asset markets or political risk. Given the probability distribution of tariffs, domestic consumption, and utility (*ex post*) are lower when there is a domestic tariff and no foreign tariff than where there is a foreign tariff and no domestic tariff. This conclusion would be reversed in the absence of asset markets. The results imply that observed relations between consumption and tariffs may differ from the usual predictions in both time series or cross sections. *J. Int. Econ.*, Nov. 1986, 21(3/4), pp. 199-213. University of Rochester; Vanderbilt University.

Turnovsky, Stephen J.—Optimal Tariffs in Consistent Conjectural Variations Equilibrium

This paper analyzes the determination of the optimal tariff under the assumption of Consistent Conjectural Variations (CCV). A general characterization of the CCV equilibrium is given. The author shows that: (1) there are, in general, a multiplicity of such equilibria, and (2) under certain restrictions, the Cournot equilibrium which is based on the assumption of no retaliation, can also be a CCV equilibrium. By contrast, free trade is never a CCV equilibrium. Finally, the CCV equilibrium is solved explicitly in a simple example. *J. Int. Econ.*, Nov. 1986, 21(3/4), pp. 391-12. University of

Illinois and National Bureau of Economic Research.

Wong, Kar-yiu—Are International Trade and Factor Mobility Substitutes?

This paper analyzes whether factor flows and commodity trade are substitutes or complements, i.e., whether increasing the level of one impacts adversely or favorably on the volume of the other. It derives, with the aid of a new general equilibrium framework of the world that allows possible differences in factor and endowments, the necessary and sufficient condition for substitutability and complementarity. The results are then further examined in two special cases. A survey of different concepts of substitutability are complementarity that have appeared in the literature is also given. *J. Int. Econ.*, Aug. 1986, 21(1/2), pp. 25-43. University of Washington, Seattle.

Wong, Kar-yiu—International Factor Movements, Repatriation and Welfare

This paper analyzes two different ways of allowing foreign capital inflow: introducing it into the domestic economy and introducing it into a duty-free zone. It shows how the ranking of the two policies depends on the production patterns in the duty-free zone and the rules of factor income repatriation. The result can be used to explain the discrepancy between the rankings of these policies in two recent papers. The analysis also shows how the way of repatriating factor income could affect the equilibrium of factor movement, the welfare of the factor owners, and the welfare of the countries concerned. *J. Int. Econ.*, Nov. 1986, 21(3/4), pp. 327-35. University of Washington, Seattle.

Wootton, Ian—Preferential Trading Agreements: An Investigation

A three-country general equilibrium model of international trade in an arbitrary number of goods is constructed and the welfare effects of the formation of a preferential trading club (e.g., customs union, free trade area) are analyzed. *J. Int. Econ.*, Aug. 1986, 21(1/2), pp. 81-97. University of Western Ontario, London, Ontario.

Yeh, Yeong-Her—The Maximum Revenue Tariff vs. Transfer Payments

This paper intends to show that when the home country imposes the maximum revenue tariff, it will decrease the welfare of the foreign country. However, if the foreign country offers a transfer payment to the home country in order to have the tariff removed, its welfare could decrease even more. *Eastern Econ. J.*, Apr.-June 1986, 12(2), pp. 142-44. University of Hawaii.

Young, Leslie—A Note on 'Sector Specific Capital, Interconnectedness in Production, and Welfare'

The author notes some errors in a recent paper by T. D. Chaudhuri and M. A. Khan on the effects of international investment in a labor-surplus country and identifies a mechanism whereby comparative static changes apparently harmful to the investing country can end up benefitting it. *Can. J. Econ.*, Nov. 1986, 19(4), pp. 678-84. University of Texas.

420 TRADE RELATIONS; COMMERCIAL POLICY; INTERNATIONAL ECONOMIC INTEGRATION

421 Trade Relations

Bailey, Martin J.; Tavas, George S. and Ulan, Michael—Exchange-Rate Variability and Trade Performance: Evidence for the Big Seven Industrial Countries

This study presents results on the linkage between exchange-rate variability and exports of the Big Seven. Unlike previous work, the authors consider the demand of oil-producing nations given by their real export earnings and measure foreign income at both "high" and "low" dollar exchange-rate levels in order to exclude a bias by a specific exchange rate. Finally, a test is performed for the effects of instantaneous and delayed impacts of exchange-rate variability on exports. In sum, exchange-rate variability has not adversely affected exports of any of the Big Seven Countries over the flexible-rate period. *Weltwirtschaft. Arch.*, 1986, 123(3), pp. 466-77. U.S. State Department; International Monetary Fund; U.S. State Department.

Dima, Lawrence R.—The Excess Supply-Pure Demand Approach to International Commodity Trade: The Case of Japanese Steel Exports to the United States

The purpose of this paper is twofold: (1) to develop a theoretical framework for the analysis of export supply that is empirically more fruitful than existing approaches and (2) to present an empirical application of the theory to the market for Japanese steel, thereby quantifying important export supply elasticities not dealt with in the past. Evidence is presented that indicates that the supply of Japanese steel exports to the United States is price elastic and sensitive to Japanese and rest of world demand conditions. *Econ. Inquiry*, Oct. 1986, 24(4), pp. 645-56. John Carroll University.

Doroodian, Khosrow—The Permanent Income Theory of Demand for Imports of Finished Manufactured Goods: The Case of the United States.

Studies in international trade have suffered from a lack of empirical testing of the validity of permanent income hypothesis. This study attempts to fill the gap by developing an import demand function that includes transitory and permanent income as explanatory variables. The results are compared with those obtained from a traditional model. The statistical findings support the permanent income hypothesis as much as they support the current income hypothesis. Thus, the policy implications based on the latter hypothesis do not seem to be called into question when the former hypothesis is substituted for the current income hypothesis. *Quart. J. Bus. Econ.*, Winter 1987, 26(1), pp. 78-85. Ohio University.

Gahlen, Barnhard; Rahmeyer, Fritz and Staller, Manfred—Zur internationalen Wettbewerbsfähigkeit der deutschen Wirtschaft. (The International Competitiveness of the German Economy)

Deficits in the balance of current account between 1979 and 1981 induced a lively discussion about the competitiveness of the German economy. In this paper the authors discuss some recent research on international competitiveness and examine the usefulness of the commonly used indicators as there are current account balances, world market shares, real exchange rates, the adjustment of the economic structure to changing supply and demand conditions as well as technology indicators like

to real shocks. Regressions, consistent with the hypothesis that current exchange rate changes create immediate PPP deviations that are slowly dissipated but not eliminated, imply that both stick prices and real shocks are responsible for the recent failure of PPP. *J. Int. Econ.*, Nov. 1986, 21(3/4), pp. 313-26. State University of New York at Albany.

Dow, Sheila C.—Post Keynesian Monetary Theory for an Open Economy

Monetary theory of the balance of payments has become synonymous with global monetarism by default. This paper puts forward an alternative monetary theory of the balance of payments, which extends to the open economy Keynes's theory of liquidity preference and subsequent work in the Keynesian tradition on the endogeneity of the money supply process. The theory is expressed in the context of business cycle analysis. Openness is shown to increase the scope for financial instability. This result contrasts with the orthodox view that openness may increase the incidence of cycles, but nevertheless reduces their amplitude. *J. Post Keynesian Econ.*, Winter 1986-87, 9(2), pp. 237-57. Stirling University, Scotland.

Evans, Paul—Is the Dollar High Because of Large Budget Deficits?

It is widely believed that the U.S. dollar has been high in recent years because of large U.S. budget deficits. Using three statistical techniques, this paper shows that the belief has no empirical support. Ricardian equivalence may explain the lack of a positive association between the budget deficit and the dollar's exchange rate. *J. Monet. Econ.*, Nov. 1986, 18(3), pp. 227-49. University of Houston.

Flood, Robert P. and Hedrick, Robert J.—Real Aspects of Exchange Rate Regime Choice with Collapsing Fixed Rates

Typical evaluations of the choice of exchange-rate regime examine the performance of the real economy and assume that the regimes last indefinitely. In contrast, actual regimes are quite transitory. This paper examines how the predictions of two popular models for the determination of some real economic variables must

be modified when agents rationally perceive that a fixed-rate regime will be transitory. The models studied are simple stochastic versions of the models in Rudiger Dornbusch (1976) and Robert P. Flood and Nancy P. Marion (1982). *J. Int. Econ.*, Nov. 1986, 21(3/4), pp. 215-32. Northwestern University and National Bureau of Economic Research.

Hogan, Lindsay I.—A Comparison of Alternative Exchange Rate Forecasting Models

this paper compares structural and times-series models on the basis of their accuracy in forecasting the Australian-U.S. dollar exchange rate. Purchasing power parity, forward exchange theory, static and dynamic specifications of both the flexible-price and sticky-price monetary models, and univariate ARIMA models are considered. Forecasts are generated at horizons of one to four quarters. In contrast to overseas results, several models in this study are found to generate forecasts superior to the random walk model. *Econ. Rec.*, June 1986, 62(177), pp. 215-23. Bureau of Agricultural Economics, Canberra.

Honohan, Patrick and Peruga, Rodrigo—Exchange Rates Do Not Fail Variance Bounds Tests

Market efficiency and rational expectations place theoretical bounds on the volatility of exchange rates in the context of the monetary approach to exchange rate determination. It is shown that, when account is taken of the sluggishness of domestic prices, these bounds are satisfied by actual exchange-rate movements. *Manchester Sch. Econ. Soc. Stud.*, Sept. 1986, 54(3), pp. 308-13. Office of the Taoiseach, Dublin, Ireland; University of California, San Diego.

Kearney, Colm and MacDonald, Ronald—A Structural Portfolio Balance Model of the Sterling-Dollar Exchange Rate

In this paper a version of the portfolio-balance approach to the determination of the exchange rate is implemented structurally for the sterling-dollar exchange rate over the period 1973-82. The model is implemented using the Brainard-Tobin methodology, which ensures that the necessary adding-up restrictions are

satisfied. Both Ordinary Least Squares and the Theil-Goldberger mixed estimation procedure are used to estimate the model. A variety of asset shock simulations are conducted, and the response of interest rates and the exchange rate to such shocks is illustrated. *Weltwirtschaft. Arch.*, 1986, 122(3), pp. 478-96. University of New South Wales; University of Aberdeen.

Kiguel, Miguel A.—Macroeconomic Adjustment under a Sliding Peg Exchange Rate and Imperfect Capital Mobility

This paper introduces a model of a small open economy under a sliding peg exchange-rate rule, imperfect capital mobility, and rational expectations. It is shown that a reduction in the rate of crawl leads to an appreciation of the real exchange rate, a current account deficit, and capital inflows. When capital is highly mobile internationally, there might even be initially an increase in the rate of inflation. Contrary to what has become common knowledge, large capital flows do not create instability. The paper also emphasizes the need to coordinate the exchange-rate rule with the budget deficit. *Eastern Econ. J.*, July-Sept. 1986, 12(3), pp. 297-306. University of Maryland.

Laskar, Daniel—International Cooperation and Exchange Rate Stabilization

The author shows that exchange rate stabilization can be viewed as a public good. Consequently, when countries do not coordinate their economic policies, the exchange rate fluctuates more than in the case of international cooperation. A quite standard two-country model where the policymakers of each country have at their disposal one policy instrument, the money stock, and want to reduce the fluctuations of both the domestic output and the domestic price level is considered. Then, the non-cooperative Nash equilibrium is compared to the set of Pareto optima. The analysis provides a formal argument for some exchange-rate stabilization. *J. Int. Econ.*, Aug. 1986, 21(1/2), pp. 151-64. CNRS-CEPREMAP, Paris.

Sauernheimer, Karlhans—Tariffs, Imported Inputs and Employment

This paper examines the effects of an import tariff on employment under flexible exchange

rates, stressing the role of factor markets. In the model consumers choose between the domestically produced good and a foreign tariff-charged good; producers choose between domestic labor and a foreign intermediate good as factors of production. In most cases the protective trade policy results in lower employment. *Economica*, Aug. 1986, 53(211), pp. 393-99. University of Essen, West Germany.

433 Private International Lending

Callier, Philippe—"Professional Trading," Exchange Rate Risk and the Growth of International Banking: A Note

By establishing money market and foreign exchange operations in major trading centers throughout the world, large banks can reduce the risk of these operations: round the clock dealing reduces the variance of speculative profits generated by foreign exchange trading. Because the availability of speculative funds is essential to promote capital mobility through the activity of interest arbitrageurs, this reduction of the risk inherent to currency speculation by professional traders is presented as a positive development. *Banca Naz. Lavoro Quart. Rev.*, Dec. 1986, (159), pp. 423-28. Concordia University, Montreal.

440 INTERNATIONAL INVESTMENT AND FOREIGN AID

441 International Investment and Long-term Capital Movements

Das, Satya P.—Optimal Taxation of Foreign Capital When Its Movements Are Sluggish

This paper examines optimal taxation of foreign capital by a host country when its movements are sluggish. It is shown that as long as the host country discounts future welfare, it is optimal to tax foreign capital even when it is small enough to be unable to influence the reward to capital in the source country. This is because the initial gain from taxing foreign capital constitutes a rent transfer from foreign capital owners to the host country, which outweighs the future losses in terms of reduced output. *J. Int. Econ.*, Nov. 1986, 21(3/4), pp. 351-60. University of Wisconsin-Milwaukee.

Kaempfer, William H. and Lowenberg, Anton D.—A Model of the Political Economy of In-

International Investment Sanctions: The Case of South Africa

This article examines the effects of disinvestment sanctions against South Africa on the survivability of the apartheid. An "interest group" model of the South African state is developed, in which apartheid policies are treated as endogenous outcomes of a political decision-making process. The effects of sanctions are introduced through the impact of international capital flows and asset prices on major interest groups within the white electorate. Circumstances under which disinvestment sanctions might raise the costs of apartheid to the South African state sufficiently to bring about a diminution of apartheid policies are examined. *Kyklos*, 1986, 39(3), pp. 377-96. University of Colorado; California State University, Northridge.

Sieber, René and Wetterwald, Paul—Environmental Protection and Direct Foreign Investment with Specific Factors of Production: The Case of the Small Open Economy

This paper provides an analysis of the effects of a stronger environmental protection on direct foreign investment flows within the context of a small open economy. Compared to previous studies, the two-sector model used is characterized by capital and pollution sector specificity. Depending on the technological structures and on the degrees of international capital mobility, a stronger policy in one sector can induce various patterns of investment flows. Precise conditions relative to the direction of these flows are derived. In particular, there is a possibility of cross-hauling, i.e., two-way capital flows. *Schweiz. Z. Volkswirtschaft. Statist.*, Dec. 1986, 122(4), pp. 611-25. University of Geneva.

Takagi, Yasuaki—Inflation and Cumulative Debt Outstanding of Less-Developed Countries

A high rate of inflation and cumulative debt outstanding are serious economic problems for many LDCs. The purpose here is to attempt a theoretical explanation of the linkage between these phenomena and a dramatic change in the world economy since the first oil crisis. The paper discusses whether or not under the cur-

rent world economic situation a nonoil producing LDC can promote capital accumulation without accelerating inflation and cumulative debt outstanding. Also examined is the question of whether or not the effects on inflation and capital formation are different between the cases of temporary and permanent changes in oil price. *J. Int. Econ.*, Aug. 1986, 21(1/2), pp. 61-80. Doshisha University, Karasuma, Kyoto, Japan.

443 International Lending and Aid (Public)

Dietz, James L.—Debt and Development: The Future of Latin America

This paper examines the necessary conditions for resolving the debt crisis in a manner consistent with economic growth. After considering the weight of internal and external causes of debt accumulation, the applicability of the East Asian model to Latin America is considered and reformulated such that the focus is on the institutional structures that impede or facilitate a process of dynamic adjustment to change rather than on model characteristics. The nature of the institutional evolution compatible with resolving the debt crisis along a nonausterity growth path of development also is examined. *J. Econ. Issues*, Dec. 1986, 20(4), pp. 1029-51. California State University, Fullerton.

van Wijnbergen, Sweder J. G.—Macroeconomic Aspects of the Effectiveness of Foreign Aid: On the Two-Gap Model, Home Goods Disequilibrium and Real Exchange Rate Misalignment

The author constructs an open-economy disequilibrium model to assess the welfare effects of aid in different macroeconomic regimes. Aid is shown to have different effects in different unemployment regimes because it increases the social costs of wage-price rigidities in the classical regime, but decreases them in the Keynesian unemployment regime. A link is made with the two-gap model, but the role of real exchange rate misalignment (failure to clear the NT goods market) is highlighted. Finally, simple formulas are given for the welfare effects of aid in different regimes that should help in empirical application. *J. Int. Econ.*, Aug. 1986, 21(1/2), pp. 123-36. World Bank and Centre for Economic Policy Research, London.

500 Administration; Business Finance; Marketing; Accounting

510 ADMINISTRATION

512 Managerial Economics

Goldstein, Jonathan—Markup Variability and Flexibility: Theory and Empirical Evidence

This paper summarizes and empirically tests an alternative theory of markup pricing. It is concluded that, over the typical business cycle: (1) the markup rises from initial trough until the midexpansion and then declines until the terminal trough, and (2) markup flexibility is positively related to the degree of (demand) competition. This cyclical pattern of markup variability is shown to exist in major industry groups for all postwar cycles up to 1980. Regression analysis reveals that in highly concentrated industries a positive relation exists between markup flexibility and the level of import competition and a proxy for the elasticity of demand. *J. Bus.*, Pt. 1, Oct. 1986, 59(4), pp. 599-621. Bowdoin College.

Hodder, James E. and Ilan, Yael A.—Declining Prices and Optimality when Costs follow an Experience Curve

There is a widely held notion that as production costs decline with experience, prices should follow more or less in parallel. Although this notion has been an important factor in estimating experience curves and in formulating corporate strategies, the authors show that it is generally inconsistent with published multi-period optimal pricing models. The paper then goes on to demonstrate that this apparent conflict can be reconciled by allowing the demand process to exhibit increasing price elasticity over time. Since this demand characteristic is very plausible for innovative products, it is suggested that it be incorporated into optimal pricing models. *Managerial Dec. Econ.*, Dec. 1986, 7(4), pp. 229-34. Stanford University; Technion-Israel Institute of Technology.

Morgan, George Emir and Martin, John D.—A Rationale for Planning: Implications from the Economic Theory of the Firm

This paper undertakes the development of a foundation for a theory of why firms plan. The theory of the firm literature provides a useful

starting point and provides insight into the factors that have an effect on the planning function of the firm. Those factors include transactions costs, uncertainty, and asset specificity. The fact that some firms should not plan even in the face of uncertainty and transactions costs emphasizes the importance of the relative magnitudes of various costs, and demonstrates the relevance of standard economic analysis for the study and practice of business planning. Examples illustrate the role of planning for human, financial, and physical resources. *Managerial Dec. Econ.*, Dec. 1986, 7(4), pp. 219-28. Virginia Polytechnic Institute and State University; University of Texas.

514 Goals and Objectives of Firms

Pantalone, Coleen and Welch, Jonathon B.—The Usefulness of Public Information about Corporate Goals

This paper investigates the relationship between corporate goals and stock price performance. In this study, firms are classified according to their stated financial goals. The risk-return market model is used to compare the performance of portfolios of companies that have different financial goals. Statistical tests reveal no significant difference in risk or return between the two portfolios. That is, stated corporate goals are fully incorporated. This supports the efficient market hypothesis concerning publicly available information on corporate goals. *Quart. J. Bus. Econ.*, Autumn 1986, 25(4), pp. 29-40. Northeastern University.

520 BUSINESS FINANCE AND INVESTMENT

521 Business Finance

Miller, Merton H.—Behavioral Rationality in Finance: The Case of Dividends

Dividends seem a natural area in finance where the introduction of behavioral/cognitive elements might help resolve long-standing anomalies, particularly the seeming failure of supply to adjust to tax-induced price penalties. A closer look at the empirical record, however, particularly at evidence of responsiveness to major structural changes, shows behavior of the aggregates to be less anomalous than conventional hand-wringing might suggest. Behavioral/cognitive elements, whatever they might contribute to the description of particularly in-

crodecisions, do not appear essential adjuncts to the basic finance model in the major, comparative static applications for which it was intended. *J. Bus.*, Pt. 2, Oct. 1986, 59(4), pp. S451-66. University of Chicago.

Richardson, Gordon; Sefcik, Stephan E. and Thompson, Rex—A Test of Dividend Irrelevance Using Volume Reactions to a Change in Dividend Policy

The authors investigate the implication of clientele theories that changes in dividend policy should result in a marked increase in trading volume as shareholder clienteles change. With 192 firms announcing their first cash dividend, both an increase in trading volume and firm value around the announcement date are documented. These results are integrated to distinguish between the volume response to good news about the future and clientele adjustments to a change in dividend policy. The results suggest that volume increases primarily in response to the signal about future earnings contained in the dividend. Clientele adjustments are small. *J. Finan. Econ.*, Dec. 1986, 17(2), pp. 313-33. University of British Columbia; University of British Columbia; University of Pennsylvania.

Shleifer, Andrei and Vishny, Robert W.—Greenmail, White Knights, and Shareholders' Interest

This article develops a model in which greenmail and other forms of management resistance to takeovers can benefit shareholders. In particular, discouraging some potential acquirers may increase shareholder wealth because it encourages others to pursue a combination with the target. This occurs because the number of competing acquirers is reduced and because resistance can signal that the target does not have access to a "white knight." This signaling effect may explain why share prices decline after management resists a takeover, even when such resistance is value-maximizing in the long run. *Rand J. Econ.*, Autumn 1986, 17(3), pp. 293-309. Princeton University; University of Chicago.

522 Business Investment

Sumner, M. T.—Investment and the 1984 Budget: An Interim Assessment

The 1984 U.K. budget introduces a sequence of reductions in the corporate tax rate and the phasing out of first-year allowances for investment. When these reforms have been completed, in 1986-87, their effect will be to depress investment; but during the transition they create an incentive to bring planned investment forward, in order to write off a higher proportion of its cost against a higher tax rate than will prevail later. This paper analyzes the magnitude of the incentive to anticipate, and reports preliminary estimates of its impact during the first year of the transition. *Oxford Bull. Econ. Statist.*, Nov. 1986, 48(4), pp. 331-38. University of Sussex.

530 MARKETING

531 Marketing and Advertising

Levedahl, J. William—Profit Maximizing Pricing of Cents Off Coupons: Promotion or Price Discrimination?

A profit-maximizing model of the pricing of cents-off coupons is presented that includes the price discrimination and the promotional interpretation of coupons. The two interpretations are not incompatible. For brand-loyal customers who do not use coupons, however, the two effects influence price in the opposite direction. Panel data on branch purchases of paper towels are used to indicate the net magnitude of the two effects in this case. The results are consistent with the hypothesis that the price discrimination effect is stronger than the promotional effect in explaining the impact of couponing on full product price. *Quart. J. Bus. Econ.*, Autumn 1986, 25(4), pp. 56-70. North Carolina State University.

600 Industrial Organization; Technological Change; Industry Studies

610 INDUSTRIAL ORGANIZATION AND PUBLIC POLICY

611 Market Structure: Industrial Organization and Corporate Strategy

Adams, Walter and Brock, James W.—Corporate Power and Economic Sabotage

In an advanced functionally interdependent society, organized power groups are able to disrupt the efficient functioning of the economic

system. If they persist in exercising their power, or if they must continually be bribed to refrain from doing so, they can (*in extremis*) cause the breakdown of the system. This hypothesis is explored with respect to U.S. regulatory policy, international trade policy, and macro stabilization policy. The article concludes that a structural antitrust policy is a prerequisite not only for maintaining competition, but for preventing economic extortion and social sabotage by giant power complexes. *J. Econ. Issues*, Dec. 1986, 20(4), pp. 919-40. Michigan State University; Miami University, Oxford, Ohio.

Beck, Roger L.—Structure and Performance with Profit Measures Based on Stock Market Prices

The belief that profit increases with concentration is tested using risk-adjusted profit measures based on stock market prices. A time-series analysis is chosen to gain freedom from the questionable assumption in cross-section studies that the concentration/profit relationship is homogeneous across industries, and to minimize the problem of omitted or inaccurately measured structural variables. The data are consistent with the hypothesis that there is no relationship between concentration and profits, contradicting both the efficiency and collusion explanations of cross-section results. This study is consistent with a belief in the importance of contestability in oligopolistic markets. *Southern Econ. J.*, Oct. 1986, 53(2), pp. 432-47. University of Alberta, Edmonton.

Brennan, Timothy J. and Kimmel, Sheldon—Joint Production and Monopoly Extension through Tying

The authors provide an exception to the general rule that a monopolist in one market cannot profitably monopolize other markets by tying. Depending upon demand and cost conditions, a monopoly distributor of one product jointly produced with a second (e.g., beef and leather) may increase profits by tying distribution of the first product to purchase of the second. The upstream tie enables this distributor to acquire downstream monopoly over the supply of the second product, but with ambiguous welfare effects. Upstream monopoly is not necessary to obtain this result. The theory is applied to

a number of actual cases. *Southern Econ. J.*, Oct. 1986, 53(2), pp. 490-501. U.S. Department of Justice.

Chen, K. C.; Cheng, David C. and Hite, Gailen L.—Systematic Risk and Market Power: An Application of Tobin's q

The authors investigate the relationship between systematic risk and market power measured by Tobin's q , the ratio of market value to replacement cost. They demonstrate that there is a one-to-one relationship between the Tobin's q ratio and the Subrahmanyam and Thomadakis measure of market power. The theoretical model predicts that as a firm's market power increases, the systematic risk will, *ceteris paribus*, decrease. The empirical results ultimately confirm this negative association as predicted by M. G. Subrahmanyam and S. B. Thomadakis. *Quart. Rev. Econ. Bus.*, Autumn 1986, 26(3), pp. 58-72. University of Illinois; University of Alabama; Southern Methodist University.

Dixon, Robert and Gunther, Alan—Margins, Concentration and Oligopolistic Interdependence

The authors examine the relationship between margins, elasticities of demand, and the Hirschman-Herfindahl index of concentration for Australian manufacturing. The main aim is to estimate the degree of collusion in various manufacturing sectors in the years 1968-69, 1972-73, and 1977-78. There appear to be marked differences in the apparent degree of collusion between industries. It is argued that once suboptimization is allowed, the Cowling-Watson model will yield biased estimates of the degree of collusion. *Econ. Rec.*, June 1986, 62(177), pp. 199-207. University of Melbourne.

Domowitz, Ian; Hubbard, R. Glenn and Petersen, Bruce C.—Business Cycles and the Relationship between Concentration and Price-Cost Margins

Using a newly constructed panel data base, the authors examine changes in price-cost margins in 284 manufacturing industries between 1958 and 1981. A key finding is a dramatic narrowing of the spread between the margins of concentrated and unconcentrated industries

has emphasized Alcoa's control over the size of the secondary sector in the long run as a source of market power for Alcoa. The results here indicate that Alcoa could exert little influence in this regard, but nonetheless had substantial market power. *Rand J. Econ.*, Autumn 1986, 17(3), pp. 389-403. University of Michigan.

612 Public Policy toward Monopoly and Competition

Smith, W. James and Vaughan, Michael B.—Economic Welfare, Price and Profit: The Deterrent Effect of Alternative Antitrust Regimes

This paper critically examines the deterrent effect of price-fixing statutes under alternative antitrust regimes. A regime is defined by the litigation strategy that the antitrust agency employs in detecting cartels and in determining whether prosecution is warranted and by the basis upon which courts estimate damages. The results of the analysis suggest that antitrust policy may actually induce cartels to further restrict output, increasing welfare loss above the level imposed by an unthreatened, perfect monopoly. Litigation strategy and damages should be founded upon consideration of welfare loss measures to avoid this possibility. *Econ. Inquiry*, Oct. 1986, 24(4), pp. 615-29. Weber State College, Ogden, Utah.

614 Public Enterprises

Boardman, Anthony; Freedman, Ruth and Eckel, Catherine—The Price of Government Ownership: A Study of the Domtar Takeover

This paper presents an analysis of how government ownership of an enterprise may affect its profitability. In August 1981, two Quebec Crown Corporations announced that they had gained control of Domtar, a private Canadian corporation. Upon receipt of this information the stock's market value dropped significantly. Over six trading days, Domtar's shareholders suffered cumulative abnormal returns of minus 25 percent, which is equivalent to a reduction in market value of approximately \$150 million. Much of this loss can be attributed to government control and the anticipated pursuit of non-profit objectives. *J. Public Econ.*, Dec. 1986, 31(3), pp. 269-85. University of British Colum-

bia; Stanford University; Virginia Polytechnic Institute and State University.

Domberger, Simon and Piggott, John—Privatization Policies and Public Enterprise: A Survey

This paper surveys and analyzes the economic literature on "privatization" policies, restricting coverage to policies designed to improve the operating efficiency of public-sector enterprises through increased exposure to competitive market forces. Liberalization is an important ingredient in any policy package designed to improve the operating efficiency of public-sector enterprises. Asset sale may enhance the beneficial impact of deregulation, but asset sale in the absence of deregulation is unlikely to improve efficiency, and may introduce additional market distortions. Franchising is seen as an appropriate mechanism for privatization. *Econ. Rec.*, June 1986, 62(177), pp. 145-62. London Business School and University of Sydney; University of Sydney.

Hartley, Peter and Trengove, Chris—Who Benefits from Public Utilities?

The authors model the determination of output, factor payments, and prices within publicly owned firms, assuming the firms are managed by utility-maximizing employees monitored by vote-maximizing politicians. The choice of a public monopoly to supply the output is most suited to further the redistributive aims of the politicians, but will also be favored by employees who can capture some rents. *Econ. Rec.*, June 1986, 62(177), pp. 163-79. Monash University, Clayton, Australia and Princeton University; Monash University.

Ware, Roger—A Model of Public Enterprise with Entry

Recent advances in technology have called into question the status of many traditional "natural monopoly" industries, such as telecommunications, mail service, and some utilities. This paper examines market equilibria for these transitional market structures in cases where one of the firms involved is a public enterprise. If the efficient market structure is a duopoly, an incumbent public enterprise may be unable

to credibly induce entry, because of its commitment to maximizing total rather than private surplus. Several other propositions are demonstrated for mixed market equilibrium in natural monopoly/natural duopoly market structures. *Can. J. Econ.*, Nov. 1986, 19(4), pp. 642-55. Carleton University, Ottawa.

615 Economics of Transportation

Kim, Moshe and Sachish, Arie—The Structure of Production, Technical Change and Productivity in a Port

The primary focus of this paper is the modeling and estimation of the structure of production, technical change, and total factor productivity (TFP) growth in a port. Special attention is given to the specification of technical change, which is measured as the percent of containerization. The findings indicate that technical change has been labor saving and capital using. TFP has been growing from 1966 to 1983 at an annual average rate of 0.11. The main contribution to TFP growth has been containerization. On the average, 85 percent of the growth in TFP has been due to containerization and 15 percent of the growth has been due to economies of scale and output growth. *J. Ind. Econ.*, Dec. 1986, 35(2), pp. 209-23. University of Haifa; Port of Ashdod, Israel.

Sickles, Robert C.; Good, David, and Johnson, Richard L.—Allocative Distortions and the Regulatory Transition of the U.S. Airline Industry.

This paper develops a model of allocative distortions with which the authors analyze departures of the U.S. airline industry from efficient resource allocation during the period 1970-81. Airline technology is assumed to transform capital, labor, energy, and materials into passenger and cargo service whose characteristics are endogeneously determined. A generalized-Leontief system of distorted profit, output supply, input demand, and reduced form output characteristics expressions is estimated by FIML using a multivariate error components model with vector autoregressive disturbances. The results tend to support the common perception that deregulation reduced both the total cost and relative level of allocative distortions. *J. Econometrics*, Oct./Nov. 1986, 33(1/2), pp.

143-63. Rice University; Indiana University; U.S. Department of Justice.

619 Economics of Regulation

Hayes, Beth and Siegel, Daniel—Rate of Return Regulation with Price Flexibility

This paper considers a change in rate-of-return regulation that will dominate standard price setting. Rather than fixing the price that the regulated firm must charge, the regulator should allow the firm to charge any price less than or equal to a ceiling price. The authors demonstrate the advantages of this proposal and develop a methodology for determining fair regulatory ceilings. The methodology explicitly takes account of the effect of regulation on financial risk, and a technique for measuring the importance of this effect is developed. Finally, an example is introduced to demonstrate the techniques and to show the potential quantitative importance of the analysis. *J. Bus.*, Pt. 1, Oct. 1986, 59(4), pp. 537-53. Northwestern University.

Varela, Oscar and Olson, Richard E.—A General Equilibrium Analysis of Financial Regulation

This paper utilizes a general equilibrium approach to investigate factor returns and output effects on a regulated and unregulated sector from imposition of a rate of return on investment regulatory constraint. The results differ from those of the "traditional" partial equilibrium model of the regulated firm developed by Harvey Averch and Leland Johnson (AJ). The differences are explained by the fact that the general equilibrium approach assumes the existence of efficient capital markets, whereas the AJ approach does not. Introduction of the competitive capital market framework in the study of financial regulation through the general equilibrium methodology is this paper's major contribution. *J. Public Econ.*, Aug. 1986, 30(3), pp. 329-40. University of New Orleans; Washburn University of Topeka.

620 ECONOMICS OF TECHNOLOGICAL CHANGE

621 Technological Change, Innovation, Research and Development

Antle, John M.—Aggregation, Expectations, and the Explanation of Technological Change

Production with technological change is defined in terms of the stationarity properties of the stochastic process generating output. The aggregation analysis shows that the structures of microeconomic and aggregate production models are different. The process generating aggregate output depends on the information firms use to form expectations; the process generating each firm's output does not. This poses a problem for analysis of technological change with aggregate data, because the variables used to explain technological change may be in the firm's information set. Thus it may not be possible, without imposing further restrictions on the process generating aggregate output, to identify the aggregate model and measure technological change. *J. Econometrics*, Oct./Nov. 1986, 33(1/2), pp. 213-36. University of California, Davis.

Bowman, Barry; Link, Albert and Zardkoobi, Asghar—An Economic Analysis of R&D Joint Ventures

A graphical model of cooperative R&D activity is presented, from which outcomes of R&D joint ventures are posited. The analysis predicts that R&D spending will increase as a result of cooperation and that the increment will tend to be in basic research more than applied or development. *Managerial Dec. Econ.*, Dec. 1986, 7(4), pp. 263-66. Syracuse University; University of North Carolina; Texas A&M University.

Capitelli, René and Müller, Heinz H.—Ein Beispiel zum Problem der Innovationsförderung (Stimulating Innovation Activities: An Illustration)

The innovation process under perfect patent protection has been analyzed by G. C. Loury (1979) and T. Lee and L. L. Wilde (1980). Here, the authors concentrate on an example stressing the polar case of no protection at all. Thus, they look at process innovations that become simultaneously available to all market participants. Due to the occurring externalities the following results are obtained: (1) decentralized market structures slow down innovations; (2) ignoring administrative costs, government actions might create incentives which bring back innovations to their social optimum; and (3) al-

lowing for administrative costs, a policy-induced stimulation of the innovation process may simultaneously increase total spending on innovation and reduce effective innovative activity. *Schweiz. Z. Volkswirtsch. Statist.*, Sept. 1986, 122(3), pp. 535-53 (German). Institut für angewandte Wirtschaftsforschung, University of Basel; Institut für empirische Wirtschaftsforschung, University of Zürich.

Klette, Tor and de Meza, David—Is the Market Biased against Risky R&D?

This article analyzes the riskiness of the R&D strategies chosen by firms engaged in a "winner-takes-all" patent race. In contradiction to P. Dasgupta and J. Stiglitz (1980), the authors show that, when the distribution of invention times is symmetric, the market equilibrium cannot be safer and may be riskier than is socially optimal. The economic reason for the emergence of this result is identified. With asymmetric distributions the market equilibrium may be excessively safe, but only if there are few competitors. *Rand J. Econ.*, Spring 1986, 17(1), pp. 133-39. London School of Economics.

Nelson, Randy A.—Capital Vintage, Time Trends, and Technical Change in the Electric Power Industry

This paper examines the effects of different technological proxies on the estimated rate and direction of technical change in the electric power industry. Multivariate specification tests are used to determine the appropriate function with which to model the cost function. Three alternative versions are estimated, employing a time trend, a vintage index, and both to represent the pace of innovation. The results support the use of the multiple index model, and indicate that the two proxies yield significantly different estimates of technical change, with the vintage estimates more closely conforming to *a priori* expectations regarding the direction of technical change. *Southern Econ. J.*, Oct. 1986, 53(2), pp. 315-32. University of Delaware, Newark.

Schankerman, Mark and Pakes, Ariel—Estimates of the Value of Patent Rights in European Countries during the Post-1950 Period

This paper empirically analyzes the private value of patent rights in the United Kingdom, France, and Germany during the postwar period, using an economic model of patent renewal. Estimates of the distribution (and total value) of patent rights and its changes over time are obtained. Of particular empirical interest is the total value of patent rights and the relationship between changes in it and changes in the quantity of patents, technological exhaustion, and demand inducement as determinants of patent values, the skewness in the distribution of patent values, and the rate of obsolescence on the returns to patents. *Econ. J.*, Dec. 1986, 96(384), pp. 1052-76. New York University; Hebrew University.

Matanabe, Susumu—Labour-Saving versus Work-Amplifying Effects of Micro-Electronics

Based largely on a series of case studies of the automobile industry in different countries, this article argues that the labor-displacement effect of microelectronic machinery, especially numerically controlled machine tools and robots, has been exaggerated, and that people tend to confuse the impact of intensified international competition and the consequent rationalization programs with that of the new technology. In production work the new technology uses less labor saving than conventional fixed automation. Its very flexibility tempts users to put more work into each unit of final output, which offsets, to a greater or smaller degree, labor savings in preproduction work. *Int. Lab. Rev.*, May-June 1986, 125(3), pp. 243-59. International Labour Office.

630 INDUSTRY STUDIES

31 Industry Studies: Manufacturing

Partley, K.; Lavers, R. J. and Maynard, A. K.—Regulation and Development Times in the U.K. Pharmaceutical Industry

This paper tests the hypothesis that U.K. government regulation has led to longer development times and delays in the introduction of new drugs. The U.K. regulatory system is described and an empirical model is formulated and then tested for the period 1968-81. Some evidence is presented of delays in the processing of applications for clinical trials and product

licenses. *Scott. J. Polit. Econ.*, Nov. 1986, 33(4), pp. 355-69. University of York.

Holz, Arnold—Die Ausstattungsinvestitionen der schweizerischen Industrie. Desaggregierte Hochrechnungen 1969-1985 (Equipment Investment of Swiss Industry. Disaggregated Estimations 1969 to 1985)

The paper documents the attempt of estimating equipment investment of Swiss industry by quantitative survey data. First of all, a general view on economic and investment development since 1969 is given. Explanations of data base and method of estimation follow. The main subject is the presentation of disaggregated time series of industrial investment activity. Comparisons of investment intensities of Switzerland, Austria, and Germany support the plausibility of estimated time series. These data fill a critical gap in Swiss statistics. They may be of use in business observation as well as business research. *Schweiz. Z. Volkswirtschaftl. Statistik.*, Dec. 1986, 122(4), pp. 677-86 (German). Konjunkturforschungsstelle and ETH Zurich, Zurich, Switzerland.

Joglekar, Prafulla and Paterson, Morton L.—A Closer Look at the Returns and Risks of Pharmaceutical R&D

Profitability of researching and developing new chemical entities (NCEs) over a 36-year investment horizon is projected, based on an R&D costs survey and on extensive U.S. sales data. After taxes, the average NCE produces a 6.1 percent real internal rate of return and a net present value of \$76 million (1976 dollars), but needs 12 years of sales to break even with an opportunity investment in corporate bonds. Risk is apparent in that two-thirds of NCEs return no more than the bonds do and the median NCE produces a negative return. A thorough sensitivity analysis is presented. *J. Health Econ.*, June 1986, 5(2), pp. 153-77. LaSalle University, Philadelphia; Smith Kline & French Laboratories, Philadelphia.

Löfgren, Karl Gustaf—The Pricing of Pulpwood and Spatial Price Discrimination: Theory and Practice

The purpose of this paper is to analyze the actual price list in a segment of the Swedish

pine-wood market (price region 1) in terms of the theory of the spatial monopsony. It is argued that the recent construction of the price list is not inconsistent with an *a priori* hypothesis about a spatial monopsony facing, according to empirical data, a concave supply curve. A few qualifications are necessary: one is that the Swedish forest owners have not actively protested against the creation of the "price list." It is shown, however, that the chosen price policy may well be mutually advantageous in relation to adjacent alternatives. *Europ. Rev. Agr. Econ.*, 1985, 12(3), pp. 283-93. Swedish University of Agricultural Sciences.

Mariotti, Sergio and Cainarca, Gian Carlo—The Evolution of Transaction Governance in the Textile-Clothing Industry

This paper argues that the structural evolution of the textile-clothing industry is mainly the result of organizational innovations to economize on transactional costs and increase the dynamic efficiency of firms. The rise of managerial hierarchies in the coordination of diversified activities, the drop in the number of vertical hierarchical arrangements and the diffusion of intermediate governance structures are the main changes in industrial organization. There is evidence from the Italian industry that supports this trend. *J. Econ. Behav. Organ.*, Dec. 1986, 7(4), pp. 351-74. Politecnico di Milano and Centro di Teoria dei Sistemi del CNR, Milan; Politecnico di Milano.

Nowak, Jan and Romanowska, Hanna—Locational Patterns of the Food-processing Industry in Poland

Referring mostly to Alfred Weber's location theory and to works of E. M. Hoover, the authors make some hypotheses regarding the location orientations of various food processing industries. The authors employ simple methods of regional analysis in order to identify the actual location orientations of selected food-processing industries. The results of the empirical analysis confirm, to a large extent, the hypotheses made earlier. These considerations can yield premises on which location planners and policy-makers could act in the sphere of the food industry distribution and rural development. *Europ. Rev. Agr. Econ.*, 1985, 12(3), pp. 433-46.

Warsaw University; Polish Academy of Sciences.

635 Industry Studies: Services and Related Industries

Boyer, Marcel and Dionne, Georges—La tarification de l'assurance automobile et les incitations à la sécurité routière: Une étude empirique (The Tarification of Car Insurances and the Incentives for Road Safety: An Empirical Investigation)

The authors analyze road safety as an economic good generating externalities and subject to moral hazard problems. They show how Pareto-superior multiperiod contracts can be designed and applied in the present context of the Quebec automobile insurance regime. To do so, it is estimated, by Probit methods and from a random sample of some 20,000 drivers' records over a 3-year period (August 1980 to July 1983), the probability that a given individual will be involved in an accident with bodily injuries. *Schweiz. Z. Volkswirtschaft. Statist.*, Sept. 1986, 122(3), pp. 293-321 (French). University of Montreal.

Doherty, Neil A. and Garven, James R.—Price Regulation in Property-Liability Insurance: A Contingent-Claims Approach

The authors use the option pricing model to derive the "fair" rate of return for the property-liability insurance firm. The rationale for the use of this model is that the financial claims of shareholders, policyholders, and tax authorities can be modeled as European options written on the income generated by the insurer's asset portfolio. By setting the value of the shareholders' option equal to the initial surplus, an implicit solution for the fair insurance price may be derived. Unlike previous insurance regulatory models, this approach addresses the ruin probability of the insurer, as well as nonlinear tax effects. *J. Finance*, Dec. 1986, 41(5), pp. 1031-50. University of Pennsylvania; Pennsylvania State University.

Henriet, Dominique and Rochet, Jean-Charles—La logique des systèmes bonus-malus en assurance automobile: une approche théorique (The Logic of the System of Bonuses and Penalties in Automobile Insurance: A Theoretical Approach)

Two justifications can be found for the use of a system of bonuses and penalties in automobile insurance. The first refers to risk selection, the second to the inducement to greater prudence at the wheel. Based on a model which incorporates both factors, it appears that the system of bonuses and penalties should be radically different depending on the primacy of one factor or the other. From the standpoint of risk selection, only the observed frequency of past accidents matters; but in order to incite safe driving the time element should enter in the allocation. In the light of the theoretical discussion, the French insurance clauses of 1976 and 1984 are reviewed. *Ann. Econ. Statist.*, Jan.-Mar. 1986, (1), pp. 133-52 (French). Laboratoire d'Économétrie de l'École Polytechnique; CEREMADE, University of Paris-IX.

Nonprofit Industries: Theory and Studies

Grant, James H. and Lindauer, David L.—The Economics of Charity: Life-Cycle Patterns of Alumnae Contributions

This paper examines the relationship between age and charitable contributions by considering the life-cycle pattern of educational donations by college alumnae. The income elasticity of such donations appears to increase with alumnae age. A second aim of the paper is to discuss the impact of fully anticipated reunions on the distribution of donations over a life cycle. Reunion years are found to increase significantly both the size and number of educational gifts relative to the estimated long-run trend in life-cycle giving. *Eastern Econ. J.*, Apr.-June 1986, 12(2), pp. 129-41. Wellesley College.

Leisbrod, Burton A. and Dominguez, Nestor D.—Demand for Collective Goods in Private Nonprofit Markets: Can Fundraising Expenditures Help Overcome Free-Rider Behavior?

Economic theory ascribes the primary role to the provision of public goods to government. Its emphasis on government overlooks the role of the not-for-profit sector in providing collective-type goods. In this paper the authors seek to determine the factors influencing charitable contributions to private nonprofit organizations by estimating a demand function for the

output of these collective-good providers. Specifically, the hypothesis that voluntary giving is responsive to conventional market variables such as advertising expenditures, price, and quality is tested. Overall, the results are strongly supportive. *J. Public Econ.*, June 1986, 30(1), pp. 83-96. University of Wisconsin-Madison; Federal Reserve Bank of New York.

640 ECONOMIC CAPACITY

641 Economic Capacity

Berndt, Ernst R. and Hesse, Dieter M.—Measuring and Assessing Capacity Utilization in the Manufacturing Sectors of Nine OECD Countries

Following a tradition established by J. M. Cassels, Lawrence Klein, and Bert G. Hickman, the authors define capacity as that output at which short- and long-run average total cost curves are tangent. They estimate a translog variable cost function for the manufacturing sectors of nine OECD countries. By the early 1980s, pervasive and chronic excess capacity exists. While the average cost consequence of excess capacity was modest in the 1960s, the burden increased considerably after OPEC-I, and after OPEC-II the premium was as large as 15 percent of average total costs. Electricity and fuel price increases had small impacts on capacity output relative to that from labor or capital. Adjusting conventional measures of multifactor productivity growth for changes in capacity utilization, it is found that adjusted growth is larger after 1973 than that suggested by traditional procedures. *Europ. Econ. Rev.*, Oct. 1986, 30(5), pp. 961-89. Massachusetts Institute of Technology; United Nations, Economic Commission for Europe, Geneva.

Driver, Ciaran—Transformation of the CBI Capacity Utilization Series: Theory and Evidence

This paper reviews the conditions for a linear relationship between a true index of capacity utilization and that obtained by the CBI Industrial Trends Survey, which records the percentage of firms working below a satisfactory utilization. It is shown that the relationship depends on the distribution of capacity utilization among the firms in the sample. Empirical evidence is presented in favor of the normal distribution.

The parameters of this distribution are estimated under various assumptions with sensitivity tests; attention is given to the possibility that these parameters may vary over time. *Oxford Bull. Econ. Statist.*, Nov. 1986, 48(4), pp. 339-52. National Economic Development Office and Thames Polytechnic, London.

700 Agriculture; Natural Resources

710 AGRICULTURE

Herrmann, Roland, et al.—A Survey of Views of Agricultural Economists in Europe

This article presents the results of a statistical survey conducted at the Fourth European Congress of Agricultural Economists. First, the views of agricultural economists and the consensus and dissension among agricultural economists on issues that are important for planning agricultural policy are measured. Second, analysis of variance is applied to investigate the influence of personal characteristics of agricultural economists on their views in agricultural economics issues. It is shown that there are significant differences in views according to nationality and professional orientation. Coauthors are Uwe Jensen, Arno Schäfer and Heinrich Terwitte. *Europ. Rev. Agr. Econ.*, 1985, 12(3), pp. 295-311. Stanford University.

711 Agricultural Supply and Demand Analysis

Alauddin, Mohammad and Tisdell, Clem—Decomposition Methods, Agricultural Productivity Growth and Technological Change: A Critique Supported by Bangladeshi Data

This paper critically reviews and applies to Bangladesh three nonproduction function approaches to the decomposition of agricultural crop output growth. These methods (which decompose agricultural production growth into such sources as yield and area effects) do not explain the underlying growth process of agricultural output and restrictively assume constant crop yields on additional land. Price changes and differences in the degree of aggregation may bias results. These methods may incorrectly specify the sources of agricultural output growth flowing from the Green Revolution and, in particular, conceal the importance of greater frequency of cropping as a source of growth. *Oxford Bull. Econ. Statist.*, Nov. 1986,

48(4), pp. 353-72. Rajshahi University, Bangladesh; University of Newcastle, New South Wales, Australia.

Capalbo, Susan M. and Denny, Michael G. S.—Testing Long-run Productivity Models for the Canadian and U.S. Agricultural Sectors

The primary objective of this paper is to develop the linkages between the gross and net productivity indexes and the implied production structures. These linkages are developed as separability restrictions on various subgroups of inputs and time in a general production model. The restricted models are arranged in sequences for nested hypotheses testing. Empirical evidence from the U.S. and Canadian agricultural sectors based on a translog production function supports the gross output total factor productivity structure. The net output Hicks neutrality hypothesis is rejected for both the United States and Canada. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 615-25. Resources for the Future, Washington, D.C.; University of Toronto.

Paarlberg, Philip L. and Abbott, Philip C.—Oligopolistic Behavior by Public Agencies in International Trade: The World Wheat Market

A model of the world wheat market is presented that treats public policies as endogenous. The oligopolistic nature of international wheat trade is captured by assuming policymakers form conjectures on the slope of the excess demand function they face and use that information to determine domestic and trade policies. The policies reflect differing influences of political interest groups. A U.S. crop-shortfall scenario illustrates the different results with endogenous policies compared to the traditional model. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 528-43. Purdue University.

Unnevehr, Laurian J.—Consumer Demand for Rice Grain Quality and Returns to Research for Quality Improvement in Southeast Asia

Abundant world rice supply has led to renewed interest in improving grain quality modern rice varieties. Implicit prices of grain characteristics are estimated for Thailand,

donesia, and the Philippines. These prices are used to evaluate rice-breeding goals and to estimate returns to research for quality improvement. Results indicate that the past focus on physical quality improvement was appropriate, and future welfare gains are possible from chemical quality improvement. Returns to quality improvement are substantial and indicate underinvestment in this type of research. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 634-41. University of Illinois.

713 Agricultural Policy, Domestic and International

Bingley, Pam; Burton, Michael and Strak, John—Inter- and Intra-sectoral Effects of Milk Quotas in the U.K. Milk Industry

The effects of milk quotas in the United Kingdom on farmers, their suppliers, and on the processing industries are investigated using a small econometric model. The model equations are derived from estimates of technical and economic relationships in the U.K. milk industry without an undue emphasis on an all-embracing theoretical optimization process. Reductions in herd size, reductions in cow yield, and a combination of herd and yield reductions are examined. The resulting simulations over a five year period from 1984 to 1988 imply that it is not just the overall level of quota production that is important. The methods by which farmers adjust to the new limits are also very significant. *Europ. Rev. Agr. Econ.*, 1985, 12(4), pp. 411-30. University of Manchester.

Burroll, Alison—Price Uncertainty under EC Milk Quotas—The current arrangements for applying the super levy under the Formula B option introduce a new element of price uncertainty into milk production decisions. In these circumstances it may be rational for individual producers to exceed their quota. Cyclical fluctuations in aggregate supply could develop, with implications for the efficiency of resource allocation and current dairy policy. *Europ. Rev. Agr. Econ.*, 1985, 12(4), pp. 335-50. University of London.

Burton, Michael—The Implementation of the EC Milk Quota

This paper presents a model that attempts to explain the recent implementation of the EC

milk quota. A preference function for the Council of Ministers is presented, which has been estimated using historical milk sector intervention prices. By maximizing this preference function to the constraints imposed by a milk sector submodel, it is possible to derive a forecast of the level of milk quota for two years: 1990/91, where the results are compared with those generated by the model when a quota mechanism is not used, and for 1984/85, when the results are compared with the actual decision taken by the Council. *Europ. Rev. Agr. Econ.*, 1985, 12(4), pp. 461-71. University of Manchester.

Cioffi, Antonio, et al.—An Evaluation of the Effects of the EC Quota System on the Italian Dairy Market

The integration of Italy into the EC led to a spectacular increase of milk imports during the 1970s, in spite of the increase in domestic production. Using an econometric model of the Italian dairy sector, it is shown that, had quota been established in 1980, imports would have increased even more and, when combined with a price decrease, imports of cheese would also have increased. These effects are comparable to those of a price decrease (without quota) of 9 percent. Coauthors are Francesco Polverini, Carlo Perone-Pacífico and Alessandro Sorrentino. *Europ. Rev. Agr. Econ.*, 1985, 12(4), pp. 389-400. University of Naples.

Colman, David—Imperfect Transmission of Policy Prices

It is commonly assumed that changes in agricultural policy prices cause equal changes in wholesale and producer prices. In other words, there is "perfect transmission" of policy prices. This paper sets out reasons why such perfect transmission does not occur in practice. Econometric results for U.K. feed cereal prices support the argument. *Europ. Rev. Agr. Econ.*, 1985, 12(3), pp. 171-86. University of Manchester.

van der Giessen, Leon B. and Post, Jaap H.—Macro- and Micro-effects of the Super Levy in the Netherlands

This article deals with the consequences of a decline in milk production for the Dutch economy. On the basis of theoretical investigations

and of the first information from practice, an opinion is given on the way dairy farmers in the Netherlands will react to the super levy. On the basis of reactions in the dairy sector and in connected industries the short-term effects on income and employment are calculated with help of input-output analysis. Also a short sketch is given of the effects in the longer term. *Europ. Rev. Agr. Econ.*, 1985, 12(4), pp. 449-60. Landbouw-Economisch Instituut, the Hague.

Hamilton, Carl—Agricultural Protection in Sweden 1970-1980

Protection in Sweden increased from 70 percent *ad valorem* tariff equivalent during 1970-72 to 80 percent during 1976-80. Dairy products and beef were particularly highly protected. Protection could not be measured by variable levies only. Price subsidies and the negotiating element in decisions on levies made direct price comparisons necessary. Approximate effective rates of protection were also estimated. Both nominal and effective rates were found to be lower than in the EC. Finally, the national defense argument about self-sufficiency in food supply was compared with present levels of production and the total cost of surplus production was estimated. *Europ. Rev. Agr. Econ.*, 1986, 13(1), pp. 75-87. University of Stockholm.

Hedlund, Stefan and Lundahl, Mats—Emergency Considerations in Swedish Agriculture: A Retrospective Look

This paper focuses on one important objective of Swedish agricultural policy, that of emergency considerations. By making a broad historical sweep—from the outbreak of World War I to the present—it is shown how that policy objective has emerged and developed over time. The main contention of the paper is that the need to be prepared for disruptions in agricultural trade—due to war or other emergencies—has been improperly advanced as an argument in favor of an overdimensioned agricultural sector. *Europ. Rev. Agr. Econ.*, 1986, 13(1), pp. 89-105. University of Lund.

Hillberg, Ann Marie—Limiting EC Grain Substitute Imports: A Simulation Model of the

West German Manufactured Feed Economy

EC measures to limit grain substitute imports are evaluated using a simulation model of the West German northern and southern manufactured feed economy, including ingredient supply and compound feed demand functions. These results show that restrictions on manioc or corn gluten feed imports have only limited success in increasing feedgrain demand by West German feed manufacturers. The impact of changes in ration composition favoring grains are dampened by the accompanying higher finished ration costs. In contrast, lowered grain prices lead not so much to changed ration composition as to lowered finished ration prices and a resulting increased demand for the final product. *Europ. Rev. Agr. Econ.*, 1986, 13(1), pp. 43-56. Purdue University.

Kirschke, Dieter—Budget Costs of the EC's Agricultural Price Policy under Uncertainty

Budget costs under the EC's agricultural price policy are subject to several determinants, which cannot be predicted with certainty. In the empirical part of the paper, the considerable extent of budget costs uncertainty is revealed. Basically, budget costs uncertainty exists because domestic and world market supply and demand are stochastic. The consequences of this kind of uncertainty are analyzed in the theoretical part of the paper. Expected budget costs are shown to be often higher than their hypothetical certainty values. Moreover, several factors are found that enhance budget costs variance in the present surplus situation on EC agricultural markets. *Europ. Rev. Agr. Econ.*, 1986, 13(1), pp. 57-74. EC Commission, Brussels.

Rieder, Peter—Experience with the Milk Quota System in Switzerland

The individual farmers' reactions have been threefold: they have made requests for higher quotas; they have filled up the quotas where gaps were available; and they have changed their production structure. The last-mentioned reaction was characterized by a reduction in the number of cows, by the production of more fodder crops, and by heifer production in the plain region. Traditional heifer producers in the

mountain area reacted with a higher milk and beef production. As a consequence, the division of labor between plain and mountain regions in milk and heifer production is diminished. *Europ. Rev. Agr. Econ.*, 1985, 12(4), pp. 473-79. Federal Institute of Technology, Zurich.

Thomson, Kenneth J. and Hubbard, Lionel J.—Budgetary and Financial Effects of the EC Milk Quota System

Results are reported from using an existing model of the Common Agricultural Policy (CAP) to analyze the quota scheme introduced by the European Community in April 1984. Results are presented for the three years 1984, 1985, and 1988. Constraining milk production causes the Community to become more self-sufficient in cereals, but slightly less so in livestock products. By 1988, net FEOGA expenditure in the milk sector is estimated to be around 40 percent less with the quota policy than under continued pre-1984 policy, though total net FEOGA expenditure is reduced by only half this amount. As would be expected, taxpayers' savings are estimated to exceed greatly the loss suffered by dairy producers. *Europ. Rev. Agr. Econ.*, 1985, 12(4), pp. 381-88. University of Newcastle upon Tyne.

Ulrich, Alvin; Furtan, William H. and Schmitz, Andrew—The Cost of a Licensing System Regulation: An Example from Canadian Prairie Agriculture

Agricultural legislation and the resultant regulation that usually ensues can often change, redirect, or even stop the adoption of yield-increasing technologies that have the potential to generate substantial economic rents. This paper offers an example from the Canadian wheat sector of how a variety-licensing regulation totally stopped the adoption of a yield-increasing technology that had the potential to increase the economic rents flowing to western Canadian farmers by 15-25 percent. This regulation further prevented high internal rates of return (greater than 50 percent) from being generated by research into this new technology. *J. Polit. Econ.*, Feb. 1987, 95(1), pp. 160-78. University of Saskatchewan, Saskatoon; University of Saskatchewan, Saskatoon; University of California, Berkeley.

714 Agricultural Finance

Calomiris, Charles W.; Hubbard, R. Glenn and Stock, James H.—The Farm Debt Crisis and Public Policy

U.S. farms, and with them agricultural lending institutions, are currently experiencing their most severe stress since the 1930s. The authors examine state-level panel data on farm incomes and balance sheets and loans from financial intermediaries, finding that disruptions in agricultural credit markets can have real effects on farm output. Unlike credit markets for large firms or for firms for which monitoring is less costly, agricultural financial markets require close customer arrangements. Local financial institutions are often unable to diversify their loan risks either within agriculture or across other geographically separated activities. Implications for government intervention in agricultural credit markets are discussed. *Brookings Pap. Econ. Act.*, 1986, (2), pp. 441-79. Northwestern University; Northwestern University; Harvard University.

Severn, Alan K.—Taxation of Federal Land Banks: Competitive Effects

The federal land banks are now exempt from all income taxes. This paper presents a model of the response of federal land bank volume and rates to taxation. In the model, the members of this borrowers' cooperative minimize their own explicit and implicit borrowing costs. In doing so, they reduce the scale of the tax exempt federal land bank. By contrast, taxation would cause a federal land bank to choose a scale larger than that which would prevail in the absence of all taxes. Therefore, taxation of federal land banks would increase their already dominant share of the market for farm real estate lending. Self-imposed restrictions limited their exposure to falling land prices, and build a larger surplus to absorb loan losses. *Quart. J. Bus. Econ.*, Autumn 1986, 25(4), pp. 41-55. Temple University.

715 Agricultural Markets and Marketing

Klamason, Henry and Forster, Olan D.—Seasonality in the Consumer Response to Milk Advertising with Implications for Milk Promotion Policy

Permitting seasonal variation in the goodwill effect in measuring the impact of fluid milk advertising on milk sales in New York City improved the statistical significance of the estimating equation. The allocation of generic advertising dollars according to optimization rules during the period 1979-81 would have resulted in a 9 percent increase in returns to dairymen supplying the New York City market. Harmonic variables are used to account for seasonality, a Pascal distribution is used to account for the decay structure, and goodwill elasticities are estimated to indicate the impact of generic advertising on sales. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 562-71. Auburn University; Cornell University.

716 Farm Management

Byerlee, Derek and Hesse de Polanco, Edith—Farmers' Stepwise Adoption of Technological Packages: Evidence from the Mexican Altiplano

Agricultural research and extension programs in developing countries, rather than following the conventional package approach, should be designed to take into account the fact that farmers adopt improved technological components in a stepwise manner. On-farm experimental and survey data collected from two rainfall zones in a high valley of Mexico are synthesized to show that farmers have rationally followed a stepwise process of adopting improved varieties, fertilizer, and herbicide for barley, reflecting the relative profitability and riskiness of each component in each zone. Despite significant interactions between the components, it was still possible for farmers to adopt individual components in a sequential manner. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 519-27. International Maize and Wheat Improvement Center, Pakistan; International Maize and Wheat Improvement Center, Mexico.

Just, Richard E. and Candler, Wilfred—Production Functions and Rationality of Mixed Cropping

This paper reports on the estimation of crop yield equations in the context of mixed cropping where several crops are grown on the same plot. The empirical results are based on data from northern Nigeria. The results show that

these seemingly haphazard crop mixes provide a useful opportunity for matching production decisions to risk preferences as the growing season evolves. Using observed prices in two different time periods, eight out of twenty crop mixes (all involving a subset of the same six crops) fall on the empirical mean-variance frontier, and nine others are not dominated by any crop mix not on the frontier. Furthermore, some variation from the absolute frontier may be explained by imperfectly anticipated prices. *Europ. Rev. Agr. Econ.*, 1985, 12(3), pp. 207-31. University of Maryland and World Bank; World Bank.

McKinzie, Lance; Paarlberg, Philip L. and Huerta, Ivan P.—Estimating a Complete Matrix of Demand Elasticities for Feed Components Using Pseudo Data: A Case Study of Dutch Compound Livestock Feeds

A complete set of direct- and cross-price elasticities of demand for livestock feed ingredients in the Netherlands is estimated using a relatively new approach. Cost minimizing behavior of compound feed manufacturers is modeled in a linear programming formulation. That formulation is then approximated by fitting a smooth cost function to optimal solutions over a sample of different feed ingredient prices. Elasticities are then evaluated along the smooth curve. *Europ. Rev. Agr. Econ.*, 1986, 13(1), pp. 23-42. Purdue University; Purdue University; Catholic University, Santiago.

Rasmussen, Svend and Nielsen, A. Hjortshøj—The Impact of Quotas on the Optimal Adjustment of Milk Production at the Farm Level

An economic model is developed for the optimal adjustment of milk production on an individual farm faced with a delivery quota. The model is based on the general neoclassical theory of production, taking into account the complicated relations between the production of milk and beef. The application of the model is illustrated by some examples with varying assumptions. The results show that in the short and medium term, the adjustment should take place by a simultaneous reduction in the feed input and in the number of cows in the herd. As expected, the long-run adjustment should take place only by a reduction in the number

of cows. *Europ. Rev. Agr. Econ.*, 1985, 12(4), pp. 351-64. The Royal Veterinary and Agricultural University, Copenhagen, Denmark.

Stees, Jerry R. and Reed, Michael R.—Rate Making for Farm-Level Crop Insurance: Implications for Adverse Selection

This research identifies two problems in the new Federal Crop Insurance that may cause adverse selection: (1) the relationship between rate making and expected yields for individual farmers, and (2) the bias introduced in coverage protection when trends are not used to establish expected yields. A theoretical investigation using the normality assumption demonstrates the potential severity of these problems, and empirical results from farm-level data lend further support. As crop insurance changes to individualized methods of protection, these issues will be particularly important for developing rates. *Amer. J. Agr. Econ.*, Aug. 1986, 63(3), pp. 653-59. University of Kentucky.

Smith, Edward G.; Knutson, Ronald D. and Richardson, James W.—Input and Marketing Economies: Impact on Structural Change in Cotton Farming on the Texas High Plains

This study isolates the degree of pecuniary economies existing for input purchases and marketing on cotton farms in the Texas southern high plains. The results indicate that substantial cost and marketing economies are being realized by the largest farms in the region. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 716-20. Texas A&M University.

Trapp, James N.—Investment and Disinvestment Principles with Nonconstant Prices and Varying Firm Size Applied to Beef-Breeding Herds

Variable beef-breeding herd sizes are found to be optimal given cyclical beef prices. Traditional replacement theory does not allow variable firm size because unequal investment (replacement) and disinvestment (culling) rates are not possible. If firm size changes, cost of production per unit endogenously changes given a U-shaped cost curve. Optimal investment and disinvestment rules for variable firm size are developed based upon the firm's cost curve and discounted net revenue flows for a finite rolling planning horizon. Current and future invest-

ment and disinvestment decisions are linked by their mutual effect on firm size and hence production cost per unit. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 691-703. Oklahoma State University.

Zacharias, Thomas P. and Grube, Arthur H.—Integrated Pest Management Strategies for Approximately Optimal Control of Corn Rootworm and Soybean Cyst Nematode

A dynamic programming model is used to determine approximately optimal management strategies for control of corn rootworm and soybean cyst nematode in Illinois. Decision alternatives for rootworm control include nontreatment, application of a soil insecticide, and rotation to soybeans. Alternatives for cyst nematode control are nontreatment, soil nematocide, resistant cultivars, and rotation to corn. State variables in the dynamic programming model are infestation levels of both pests, previous land-use decisions, and expected product prices. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 704-15. Louisiana State University; University of Illinois.

717 Land Reform and Land Use

Berck, Peter and Levy, Amnon—The Costs of Equal Land Distribution: The Case of the Israeli Moshavim

Equal land distribution achieved by government policy may adversely affect aggregate output. Israeli *moshavim* (cooperative villages) operate under an equal land allocation rule. This study assesses the production and distribution consequences of two alternative hypothetical allocation rules; a free market allocation, and a policy that maximizes value-added without discrimination based on nativity or ethnicity. Production and supply functions are estimated using sample data on Israeli family farms. Then the three allocation rules are simulated. The output loss from distributing land equally is found to be modest compared to the income inequality generated by the other rules. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 605-14. University of California, Berkeley; Ben Gurion University of the Negev, Israel.

Braverman, Avishay and Stiglitz, Joseph E.—Cost-Sharing Arrangements under Share-

Cropping: Moral Hazard, Incentive Flexibility, and Risk

This paper explains the rationale and describes the characteristics of cost-sharing arrangements in rural developing economies, focusing on the risk and incentive properties of alternative cost contracts and on their flexibility—their ability to adapt to environmental changes. It is shown that where labor inputs are difficult to monitor, the rule that cost shares and output shares be equalized will not hold and is not “constrained Pareto efficient,” and that cost-sharing contracts have a decided advantage over contracts that specify the level of inputs whenever there are asymmetries of information regarding production technology between the landlord and the tenant. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 642–52. World Bank; Princeton University.

Pohoryles, Samuel—Agricultural Emancipation in a Semi-Arid Ecosystem

The most acute and crucial agricultural and food problems are focused in developing countries. About 60 percent of the necessary agricultural growth in developing countries is linked to improved land–water strategy. Israel is a classic example of unfavorable distribution of natural resources. Middle East experts have evaluated that this region requires a whole generation (25 years) to get its food production doubled. During 25 years Israel's agriculture increased twelvefold in real terms—10 percent annually. This was achieved by “correction of the nature” (water carrier), gradual substitution of land and water by “neutral” technology, and heterogenization of rural economy. *Konjunkturpolitik*, 1986, 32(3), pp. 164–78. Ministry of Agriculture, Israel.

Sedder, David W.—Institutionalism and Agricultural Development in India

This paper shows how institutional theory, especially that of J. Fagg Foster, and management theory can be applied to agricultural projects in developing countries. The case study is the “Sukhamajri Project,” an irrigation and soil conservation project in India sponsored by the Ford Foundation. An interesting feature of this project is a completely egalitarian distribution of irrigation water among all households

in the village, irrespective of land ownership. Each household is given an equal quantity of water right, which it can then “truck, barter, and exchange.” Various principles of institutional/managerial theory are discussed and related to this project. *J. Econ. Issues*, Dec. 1986, 20(4), pp. 1011–27. Colorado State University.

720 NATURAL RESOURCES

721 Natural Resources

Amigues, Jean-Pierre and Moreaux, Michel—Gravières et vins de Bordeaux (Gravel Pits and Bordeaux Wines)

Sand and gravel mining is one of the main extractive industries in France. Extraction implies generally a loss of some agricultural potential, i.e., the destruction of some agricultural asset. Such a problem has recently arisen in the Bordeaux area, well known for its wine. In this paper, the authors show how the gravel extraction and agricultural output paths will be determined in a system of competitive markets. *Ann. Econ. Statist.*, Jan.–Mar. 1986, (1), pp. 75–105 (French). GREMAQ, University of Social Sciences of Toulouse.

Anderson, F. J.—Valuing a Depletable Resource Endowment in an Open Economy

A simple general equilibrium structure is used to model the welfare effect of the hypothetical loss of a depletable resource endowment in an open economy. The Hicksian equivalent surplus measure is used as the welfare indicator. Three types of loss are identified: the elimination of rents along the optimal extraction path, loss of producers' surplus associated with (strict) concavity of the economy's transformation frontier in nonresource inputs, and a terms-of-trade loss. The latter reflects the economy's excess demand for the resource in the absence of its own endowment and is zero if it is a price taker in world markets. *Can. J. Econ.*, Nov. 1986, 19(4), pp. 730–44. Lakehead University, Thunder Bay, Ontario.

Anderson, Lee G. and Lee, Dwight R.—Optimal Governing Instrument, Operation Level, and Enforcement in Natural Resource Regulation: The Case of the Fishery

Most regulation studies have used industry output or inputs as the control variable(s), but

these are only indirectly controlled by government action through its choice of governing instrument, enforcement procedure, and penalty structure and the operational level of each. A model is developed that demonstrates how profit-maximizing firms will react to these control variables taking into account the benefits (extra production) and costs (possible penalties) of noncompliance and the ability to avoid detection of noncompliance. The optimal operation level for two sets of control variables is derived and discussed. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 678-90. University of Delaware; University of Georgia.

Anderson, Terry L. and Johnson, Ronald N.—The Problem of Instream Flows

To obtain a surface water right in the arid American West, private appropriators have been required to undertake actual physical diversion of the water. That requirement largely negates the role of private contracting to preserve or enhance water flows for recreational, wildlife, and aesthetic purposes. In this paper a model is developed and used to examine the courts' rationale for denying private claims to instream flows. The ways in which such claims can be made amenable to the prior appropriation system are explored. The paper is motivated by the failure of public agencies to achieve an approximately optimal solution. *Econ. Inquiry*, Oct. 1986, 24(4), pp. 535-54. Montana State University.

Capalbo, Susan M.—Temporary Equilibrium Production Models for a Common-Property Renewable-Resource Sector

Temporary equilibrium production models for a common-property, renewable-resource sector are developed and used to measure the shadow value of the resource. The structure of these models incorporates the biological dynamics and the ownership rights. Under sole ownership, the firm chooses the utilization level of the resource stock, which in turn affects his investment policy in the resource. For an open-access fishery, the firm behaves as if the shadow value was zero. To measure the shadow values for an open-access fishery, a model of downstream market behavior is proposed. This model is implemented for the North Pacific hal-

ibut fishery. *J. Econometrics*, Oct./Nov. 1986, 33(1/2), pp. 263-84. Resources for the Future, Washington, D.C.

Comolli, Paul M.—Exhaustible Resources and International Trade

This paper extends on the optimal growth/exhaustible resource model of P. Dasgupta and G. Heal (*Rev. Econ. Studies*, December 1974) to include international trade in the resource and a produced composite good. In contrast to recent studies that have utilized small open-economy assumptions, the analysis determines the terms of trade and rate of interest endogenously within a two-country setting. This determination allows the author to investigate the intertemporal patterns of trade and specialization that may possibly arise. Countries are assumed to have identical Cobb-Douglas technologies but different preferences and initial factor endowments. *Eastern Econ. J.*, July-Sept. 1986, 12(3), pp. 291-96. University of Kansas.

Deller, Steven C.; Chicoine, David L. and Ramamurthy, Ganapathi—Instrumental Variables Approach to Rural Water Service Demand

The alternative instrumental variable techniques for dealing with measurement error and simultaneity feedback associated with studying water demand, where water is sold through discrete block prices, are developed and compared with OLS estimates in this paper. Household data on rural water service customers are used to estimate demand. The results support rejecting OLS estimates in favor of the instrumental approach and do not support the Taylor/Nordin demand specification as appropriately capturing rural water service customer behavior. *Southern Econ. J.*, Oct. 1986, 53(2), pp. 333-46. University of Illinois; University of Illinois; State Water Survey, State of Illinois.

Fox, William F. and Hoeller, Richard A.—Using Homothetic Composed Error Frontiers to Measure Water Utility Efficiency

A composed error, dual output production function is used to measure the production and cost frontiers for a sample of rural U.S. water producers. Contributions of the paper include explicitly accounting for the separable outputs

of water production and distribution; defining the concepts of absolute and relative efficiency and measuring each; and quantifying both allocative and technical inefficiency for each firm. Also, the extent of inefficiency in the delivery of water services is compared for private and public water producers to determine which performs best relative to its potential, with the conclusion that they have equal absolute degrees of inefficiency. *Southern Econ. J.*, Oct. 1986, 53(2), pp. 461-77. University of Tennessee.

Karp, Larry; Sadeh, Arye and Griffin, Wade L.—Cycles in Agricultural Production: The Case of Aquaculture

The problem of determining optimal harvest and restocking time and levels is considered. A continuous time deterministic control problem is used to study the case where production occurs in a controlled environment. A stochastic control problem is then used to determine rules for the cultivation of *P. stylirostris*, which occurs in a stochastic environment. The deterministic analog of the problem is also solved. The two solutions are used to develop a measure for the value of a controlled environment and for the value of information about the stochastic environment. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 553-61. University of California, Berkeley; Texas A&M University; Texas A&M University.

Karpoff, Jonathan M.—Suboptimal Controls in Common Resource Management: The Case of the Fishery

The discrepancy between elaborate proposals to "solve" the common pool fishery problem and actual fishery regulations is examined. The self-interest hypothesis of regulation and fisherman heterogeneity can explain two historically popular types of fishery regulations: season closures and capital constraints. These have differential impacts on fishermen and typically redistribute the fishery's harvest from more efficient toward less efficient producers. To the extent that fishermen are antagonistic to a regulatory body's jurisdiction they tend to be relatively inefficient, it is predicted that these regulations will withstand the theory and data that demonstrate their suboptimality. *J. Polit. Econ.*, Feb.

1987, 95(1), pp. 179-94. University of Washington, Seattle.

Kealy, May Jo and Bishop, Richard C.—Theoretical and Empirical Specifications Issues in Travel Cost Demand Studies

A travel cost demand model is derived from a utility function that postulates that individuals choose the optimal total number of site recreation days given by the product of the number and length of their recreation trips. By relaxing the assumption that onsite time is constant across recreationists, the applicability of the travel cost method is extended. The model is estimated using a maximum likelihood procedure appropriate for the truncated sample data, which is characteristic of most user-specific recreation data. Failure to do so would result in overestimating the value of Great Lakes fishing by 3.5 times. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 660-67. Colgate University; University of Wisconsin.

Lee, Seung-Dong—On the Theory of an Exhaustible Resource Extractive Multinational Firm

The exhaustible resources extracted by the foreign affiliate become intermediate goods both at home and in the foreign country. The foreign affiliate produces final products and sells them within the country, while the parent firm produces the same products and sells them at home as well as to the foreign country. This paper analyzes the behavior of the multinational firm and commercial and resource conservation policy implications for each country. Much attention is paid to the role of the exhaustible resource and the dynamics of variables. *Can. J. Econ.*, Nov. 1986, 19(4), pp. 716-29. University of Alabama.

Livernois, John R. and Uhler, Russell S.—Extraction Costs and the Economics of Nonrenewable Resources

The study questions the fundamental assumption of the standard aggregate exploration-extraction model of nonrenewable resources that extraction costs and the level of reserves are inversely related. It also raises questions about the model's conclusions regard-

ing exploration incentives and the valuation of reserves. An empirically tested disaggregate model is presented that suggests that exploration activity occurs from firms attempting to balance marginal extraction plus user costs at the intensive and extensive margins. Exploration is carried out until the marginal discovery cost of a deposit equals its present asset value and a U-shaped price path is indicated. *J. Polit. Econ.*, Feb. 1987, 95(1), pp. 195-203. University of Alberta, Edmonton; University of British Columbia, Vancouver.

Mitra, Tapan and Wan, Henry Y., Jr.—On the Faustmann Solution to the Forest Management Problem

This paper is concerned with optimal solutions to the forest management problem when future utilities are not discounted. By examining asymptotic properties of such solutions, the authors find that: (1) if the utility function is linear, then the Faustmann periodic solution is optimal; (2) if the utility function is increasing and strictly concave, an optimal solution converges to the maximum sustained yield solution, which is characterized as a golden rule. These results may be viewed as a possible resolution to the debate in forestry economics about what constitutes an optimal policy in forest management. *J. Econ. Theory*, Dec. 1986, 40(2), pp. 229-49. Cornell University.

Mueller, Michael J. and Eubanks, Larry S.—Institutional Effects on an In Situ Natural Resource Market: Forced Pooling in a Petroleum Reserves Market

This paper finds that use of forced pooling in the acquisition of oil and gas leases in Oklahoma resulted in additional petroleum reserves. Forced pooling also increased acreage leased, investment in acreage and wells, and wells drilled. A simultaneous equation model of the petroleum reserves market based on inputs used in developing reserves was estimated. Original data on forced pooling orders, including lease bonus payments, was collected from state legal records. A forced pooling order allows the owner of a fractional drilling unit share to force all other owners to consent to drilling, it is not unitization. *Southern Econ. J.*, Oct. 1986, 53(2), pp. 374-82. Clarkson Uni-

versity, Potsdam, New York; University of Colorado.

723 Conservation and Pollution

Bongaerts, Jan C. and Heinrichs, Dirk—Deutsche Umweltschutzgesetze und Umweltschutzinvestitionen des produzierenden Gewerbes (German Environmental Protection Legislation and Environmental Investment by West German Manufacturing Industries)

The paper explores the impact of environmental regulations on environmental protection investment expenditures by thirty-seven West German industries. Its main conclusion states that interindustry differences in these expenditures can be explained by interindustry differences in environmental protection legislation. Besides the influence of the law these investments are also explained by economic variables like cash flow and industry structure. Measurement of the impact of the law takes place by assessing the cumulative effect of industry-specific environmental regulations over time as well as the intensity with which these regulations affect each industry. *Konjunkturpolitik*, 1986, 32(3), pp. 151-63 (German). Science Center Berlin, West Germany.

Endres, Alfred—Charges, Permits and Pollutant Interactions

An environmental quality indicator allowing for pollutant interactions is assumed to exist. The presupposed policy goal is to meet a certain standard in terms of this indicator. Alternative instruments to achieve the target at minimum cost are analyzed. With the simplest term of interaction, the properties of the instruments do not deviate much from what is known from the traditional literature on noninteractive pollutants. When interaction is complex, however, the iterative process to attain the target by effluent charges is more cumbersome. Moreover, nonconvexities may arise, making transferable discharge permits lose their widely acknowledged efficiency property. *Eastern Econ. J.*, July-Sept. 1986, 12(3), pp. 327-36. Technical University of Berlin.

Shortle, James S. and Dunn, James W.—The Relative Efficiency of Agricultural Source Water Pollution Control Policies

This paper examines the relative expected efficiency of four general strategies that have been proposed for achieving agricultural non-point pollution abatement. Emphasis is placed on the implications of differential information about the costs of changes in farm management practices, the impracticality of accurate direct monitoring, and the stochastic nature of non-point pollution. The possibility of using hydrological models to reduce, but not eliminate, the uncertainty about the magnitude of non-point loadings is incorporated into the analysis. The principal result is that appropriately specified management practice incentives should generally outperform estimated runoff standards, estimated runoff incentives, and management practice standards for reducing agricultural nonpoint pollution. *Amer. J. Agr. Econ.*, Aug. 1986, 68(3), pp. 668-77. Pennsylvania State University.

Smith, V. Kerry and Desvousges, William H.—An Empirical Analysis of the Economic Value of Risk Changes

This paper reports detailed empirical tests of how an individual's valuation of a risk change varies with the level of the baseline risk. The findings reject the conventional hypothesis and indicate that the estimated marginal valuation of a risk change decreased with increases in the level of risk. They also indicate that the direction of the risk change and perceived entitlements to safety affect the reported marginal valuations. The specific application involves a contingent valuation analysis based on the responses of a representative sample of households in suburban Boston to proposed reductions in the risks of exposure to hazardous wastes. *J. Polit. Econ.*, Feb. 1987, 95(1), pp. 89-114. Vanderbilt University; Research Triangle Institute, North Carolina.

723 Energy

Dubin, Jeffrey; Miodema, Allen K. and Chandran, Ram V.—Price Effects of Energy-Efficient Technologies: A Study of Residential Demand for Heating and Cooling

Energy efficient appliances reduce the marginal price of the services they deliver. This article shows empirically that such price reductions result in energy savings that are smaller

than those engineering techniques generally project. Using econometric techniques with data from a unique utility experiment and a detailed engineering-thermal load model, the authors find that actual conservation is as much as 13 percent below engineering estimates for cooling and 8 to 12 percent below for heating. Customers who conserve electricity are also persistent; their houses are comparatively warmer in summer and cooler in winter. *Rand J. Econ.*, Autumn 1986, 17(3), pp. 310-25. California Institute of Technology; Research Triangle Institute, Triangle Park, North Carolina; Research Triangle Institute.

Gately, Dermot—Lessons from the 1986 Oil Price Collapse

This reviews the details and the background of the 1986 oil price collapse, discusses whether it was or was not a surprise, and what it means for oil prices in 1986-87 and over the longer term. It includes the following sections: an overview of the 1970-86 data and expert opinion; an explanation of the 1986 price collapse, together with a simulation of the choices facing OPEC for 1986 and thereafter; an examination of the question of what should have been expected for 1985-86; and a discussion of the outlook for the world oil market, both short term and long term. *Brookings Pap. Econ. Act.*, 1986, (2), pp. 237-71. New York University.

Kalt, Joseph P. and Leone, Robert A.—Regional Effects of Energy Price Decontrol: The Roles of Interregional Trade, Stockholding, and Microeconomic Incidence

Policy debates over energy pricing frequently pit "producing states" against "consuming states." Such a distinction ignores the fact that ownership of energy-producing and energy-using assets is geographically dispersed, and that trade links regional economies. Incorporating these factors as well as alternative patterns of the incidence of higher gas prices into an analysis of natural gas decontrol reveals a significant influence on the net interregional transfers resulting from decontrol. Apparent "consuming" regions could benefit from gas decontrol, and "consuming" regions generally do not benefit from policies that tax producer windfalls from

control and then redistribute the revenues compensation to gas users. *Rand J. Econ.*, summer 1986, 17(2), pp. 201-13. Harvard University.

800 Manpower; Labor; Population

10 MANPOWER TRAINING AND ALLOCATION; LABOR FORCE AND SUPPLY

3 Labor Force

enn, P. T. and Vlachonikolis, I. G.—Male Labour Force Participation Following Illness or Injury

This paper develops a model of the disabled individual's labor force participation decision following illness or injury, and confronts it with data on the financial consequences of ill health. A utility function is specified, which allows for the effect of changes in health on work-leisure preferences, and is evaluated in relation to a household budget constraint. Estimation is through maximization of the appropriate likelihood function, correcting for self-selection bias within a switching regression model. Results are presented showing significant effects of financial variables on participation, and these are seen to vary with age, disability, and income. *Economica*, Aug. 1986, 53(211), pp. 379-91. Oxford University.

oterba, James M. and Summers, Lawrence H.—Reporting Errors and Labor Market Dynamics

This paper estimates the incidence of response errors in the Current Population Survey. It proposes a procedure for adjusting the Bureau of Labor Statistics' gross flows data on labor market transitions to account for these errors. The findings illustrate the potentially substantial effect of response errors on studies of labor market behavior. The adjustment procedure suggests that, because measurement errors give rise to spurious transitions between labor market states, conventional measures may understate the duration of unemployment by as much as 80 percent, and overstate the frequency of labor force entry and exit by even more. *Econometrica*, Nov. 1986, 54(6), pp. 319-33. Massachusetts Institute of Technology; Harvard University.

820 LABOR MARKETS; PUBLIC POLICY

821 Labor Economics

Albrecht, James and Jovanovic, Boyan—The Efficiency of Search under Competition and Monopsony

This paper compares monopsonistic and competitive search equilibria. While the competitive equilibrium is efficient, the monopsonistic equilibrium is not: there is too much search, and the employment rate is too low. *J. Polit. Econ.*, Dec. 1986, 94(6), pp. 1246-57. New York University.

Bewley, Truman—The Share Economy in General Equilibrium

Martin Weitzman's 1982 paper on increasing returns and unemployment equilibrium is driven by the presence of a Clower constraint and does not provide a persuasive model of unemployment. The employment effects of implementation of a share economy are impossible to evaluate until unemployment equilibrium is understood. Further, the determination and adjustment of the share parameter and of labor demand are unsatisfactory in Weitzman's model. *J. Compar. Econ.*, Dec. 1986, 10(4), pp. 457-59. Yale University.

Blair, Christine E. and Rodrigues, Anthony P.—A Model of Wage Contract Bargaining with Imperfect Information and Strikes

The authors examine a model of wage bargaining based on optimizing behavior and imperfect information. In the model negotiation is used to extract private information. The model makes detailed predictions about the effects of various costs on the length of negotiations. Strikes or lockouts can be rational behavior either if the costs of negotiating are low or if the return to information is high. *Eastern Econ. J.*, July-Sept. 1986, 12(3), pp. 251-56. Federal Deposit Insurance Corporation, Washington, D.C.; Fordham University.

Blundell, Richard and Walker, Ian—A Life-Cycle Consistent Empirical Model of Family Labour Supply Using Cross-Section Data

This paper estimates a utility maximizing model of the joint determination of male and female labor supplies using a sample of married couples from the U.K. Family Expenditure

Survey. The emphasis is on the estimation of within-period preferences that are consistent with intertemporal, two-stage budgeting under uncertainty. However, the approach provides an alternative method of estimating certain aspects of life-cycle behavior to the fixed effects λ -constant approach of J. J. Heckman and T. E. MaCurdy (1980), MaCurdy (1981) and M. J. Browning, A. S. Deaton and M. Irish (1985). Moreover, it relaxes some of the underlying restrictions implicit in λ -constant models under uncertainty. *Rev. Econ. Stud.*, Aug. 1986, 53(4), pp. 539-58. University College, London; University of Manchester.

Burtless, Gary—Social Security, Unanticipated Benefit Increases, and the Timing of Retirement

This paper proposes a model of retirement behavior in which workers respond differently, although in a theoretically consistent manner, to the anticipated and unanticipated components of the social security benefit they can receive upon retirement. The retirement age decision in the presence of unanticipated benefit changes is shown to be a special case of utility maximization under a nonlinear budget constraint. The model is estimated using the Longitudinal Retirement History Survey. *Rev. Econ. Stud.*, Oct. 1986, 53(5), pp. 781-805. Brookings Institution.

Connolly, Rachel—A Framework for Analyzing the Impact of Cohort Size on Education and Labor Earning

This paper analyzes three models of labor demand solving for the change in wages of a given labor group due to a change in the size of a birth cohort. When the production function includes age-schooling groups as separate factors, an increase in the size of one birth cohort changes the size of several labor market groups. Also, in this case, the demand effect of changing factor size is joined by a supply effect of changing schooling proportions. Ignoring the supply effect may cause overestimation of the effect of a large birth cohort on wages of young skilled workers. *J. Human Res.*, Fall 1986, 21(4), pp. 543-62. Bowdoin College.

Cooper, Russell—Share Contracts and Macroeconomic Externalities

Martin Weitzman's analysis of the share economy contrasts fixed-wage and fixed-share contracts; this paper notes that neither is an optimal labor contract, rendering the comparison suspect. Given this comparison, though, share contracts may be superior to wage contracts in an economy characterized by a "macroeconomic externality," whereby firm-level employment decisions affect the demand for other firms' goods. *J. Compar. Econ.*, Dec. 1986, 10(4), pp. 421-26. University of Iowa.

Dasgupta, Partha and Ray, Debraj—Inequality as a Determinant of Malnutrition and Unemployment: Theory

This paper presents a theory that links involuntary unemployment to the incidence of malnourishment, relates them in turn to the production and distribution of income and, thus, ultimately to the distribution of assets. The model used to illustrate the theory is "general equilibrium." It is shown, among other things, that if aggregate assets in an economy are neither large nor small, and if the distribution of assets is highly unequal among people, then it is the assetless who are vulnerable in the labor market; specifically, there is involuntary unemployment among the assetless. *Econ. J.*, Dec. 1986, 96(384), pp. 1011-34. University of Cambridge; Indian Statistical Institute, Delhi and Stanford University.

Ham, John C.—Testing Whether Unemployment Represents Intertemporal Labour Supply Behavior

In this paper the author implements a misspecification test of the Lucas-Rapping treatment of unemployment as labor supply behavior using panel data. This test extends previous such work with micro data by simultaneously allowing for intertemporal substitution, uncertainty and endogenous unemployment. Strong evidence against the standard specification of intertemporal labor supply behavior is found. *Rev. Econ. Stud.*, Aug. 1986, 53(4), pp. 559-78. University of Toronto and Princeton University.

Heel, Michael and Vale, Ben—Effects on Unemployment of Reduced Working Time in an Economy Where Firms Set Wages

The paper considers an economy where firms set wages, balancing the direct benefit of low wages with the indirect cost of low wages (relative to other firms) leading to high quit rates and, therefore, high training costs. Reducing the institutionally given working time makes the importance of training costs increase, thus making firms more concerned about keeping quit rates low. The effect is increased unemployment as a consequence of reduced working time. The effect on hourly and yearly wages is uncertain, although increased hourly wages seem to be the most plausible case. *Europ. Econ. Rev.*, Oct. 1986, 30(5), pp. 1097-1104. University of Oslo.

Luang, Wei-Chiao and Ray, Subhash C.—Labor Supply, Voluntary Work, and Charitable Contributions in a Model of Utility Maximization

This paper explores the interrelationship between charitable giving, volunteer work, and labor supply decisions. A theoretical model is presented where an individual's decisions relating to charitable giving, voluntary work, labor supply, and consumption are derived from maximizing a Stone-Geary utility function subject to time and budget constraints. Within this framework, the authors also analyze the impacts of changes in the wage and tax rates on labor supply and charitable behavior. The comparative static analysis yields some interesting results. *Eastern Econ. J.*, July-Sept. 1986, 12(3), pp. 257-63. Western Michigan University; University of Connecticut.

McKinnon, T. J.—Testing Neo-classical Theories of Labour Demand: An Application of Cointegration Techniques

Neoclassical labor demand theories are tested on U.K. time-series data using cointegration techniques. The two alternative approaches of "cointegrating regression" and the "error-correcting mechanism" are presented, neither of which supports the existence of a simple neoclassical equilibrium labor demand relationship. Some caution should, however, be exercised in practical applications of cointegration, due to the lack of power of existing tests of cointegration and cointegration against certain common autoregressive structures. *Oxford*

Bull. Econ. Statist., Aug. 1986, 48(3), pp. 241-51. Merton College, Oxford University.

Kaiser, Carl P.—Unemployment Insurance and the Theory of Labor Demand

This paper models the effects of unemployment insurance (UI) on firm behavior in an environment of fluctuating product demand. Given certain assumptions regarding the firm, the model implies that stronger experience rating of the UI tax will increase layoff costs and so: (1) dampen fluctuations in the quantities of worker hours and the employment stock demanded by the firm; (2) reduce layoffs; and (3) increase the ratio of average hours per worker to the employment stock in all periods. A higher UI benefit rate will increase layoff costs for employers who face strong experience rating and incur low hiring costs, and decrease layoff costs for employers for whom experience rating is weak and hiring costs are high. Thus, in the aggregate, a higher benefit rate is not likely to have substantial effects on the employment and hours decisions made by firms. *Eastern Econ. J.*, Apr.-June 1986, 12(2), pp. 115-28. Washington and Lee University.

Kato, Takao—"Bumping," Layoffs, and Work-sharing

This paper deals with an interesting but often-neglected labor practice prevalent in large North American firms with well-developed internal labor markets. Large North American firms typically respond to a decline in demand for their products by first reducing the number of hours worked (or worksharing). As the demand continues to fall, however, they begin to make skilled workers "bump onto" unskilled jobs, displacing unskilled workers. Skilled workers are laid off only after a considerable number have bumped. The author develops an implicit contract model and explains the practice. *Econ. Inquiry*, Oct. 1986, 24(4), pp. 657-68. Colgate University.

Katz, Eliakim; Spiegel, Uriel and Ziderman, Adrian—The Remuneration Package and Pareto Inefficiency in the Labour Market

This paper argues that a simple wage payment system relating wages to hours of work supplied cannot bring about Pareto efficiency

in the labor market and that in its search for efficiency, the labor market has evolved an alternative pricing system that differs from those generally found in other markets. Specifically, it is demonstrated that whereas Pareto efficiency will in general be absent in the labor market when a single price system prevails, a labor reward package consisting both of a fixed payment element unrelated to hours of work supplied and a work input related wage element is likely to bring about Pareto efficiency. *Europ. Econ. Rev.*, Dec. 1986, 30(6), pp. 1197-1205. Bar-Ilan University, Ramat Gan, Israel and York University, Ontario, Canada; Bar-Ilan University and University of Pennsylvania; Bar-Ilan University and University of British Columbia.

Lockwood, Ben—Transferable Skills, Job Matching, and the Inefficiency of the 'Natural' Rate of Unemployment

Two things are accomplished in this paper. First, the author has shown that search equilibrium may be inefficient even in the absence of external effects that work through the matching probabilities. Second, policies that might counteract these external effects are considered. Apart from policies that directly increase worker bargaining power, it is seen that a wage tax or a profit tax combined with an employment subsidy improves efficiency, but that a profit tax alone may reduce it. *Econ. J.*, Dec. 1986, 96(384), pp. 961-74. Birkbeck College, London.

Miyazaki, Hajime—Labor-Management Bargaining: Contract Curves and Slutsky Equations

Consider a firm in which labor and management bargain over division of the firm's organizational rent and negotiate the firm's policy. The author emphasizes the relationship between the bargainer's contract curve and the firm's Slutsky equations. A bargaining firm is described as a hybrid of a profit-maximizing firm and a labor-managed firm. The methodology is applied to models of employment contracts under three separate circumstances in which labor's bargaining power affects the firm's comparative-static behavior are identified: (1) inefficiency in the bargained contract; (2) the interac-

tion between workers' income effects and the firm's capital cost burden; and (3) incompleteness of the market for property rights in the firm. *J. Polit. Econ.*, Dec. 1986, 94(6), pp. 1225-45. Ohio State University.

Mookherjee, Dilip—Involuntary Unemployment and Worker Moral Hazard

This paper critically examines the hypothesis that layoffs are involuntary in implicit labor contracts because they are used by employers to punish inferior worker performance. In repeated moral hazard situations, workers typically bear risk associated with whether they are chosen to be laid off even though the latter is uninformative about previous effort choices and wages are performance-contingent. However the hypothesis is unsatisfactory as optimal contracts involve involuntary retentions rather than involuntary layoffs in a wide variety of circumstances. *Rev. Econ. Stud.*, Oct. 1986, 53(5), pp. 739-54. Stanford University.

Murphy, Kevin J.—Incentives, Learning, and Compensation: A Theoretical and Empirical Investigation of Managerial Labor Contracts

This article analyzes properties and implications of multiperiod managerial labor contracts under two alternative hypotheses: *incentives*, in which productivity depends on unobservable effort, and *learning*, in which ability is unknown and is revealed over time. Shared and conflicting implications of these competing models are developed in terms of experience-earnings profiles and the relation between compensation and performance. The author empirically examines these theoretical results by using a longitudinal sample of 1,488 chief executive officers followed from 1974-85. The data yield mixed evidence that generally supports the learning hypothesis over the incentive hypothesis. *Rand J. Econ.*, Spring 1986, 17(1), pp. 59-76. University of Rochester.

Fyatt, Graham—Inertia in Labor Markets

The paper generalizes I. M. MacDonald and R. M. Solow's treatment of wages and employment determination as a cooperative game between a firm and a firm-specific union. Pareto-efficient solutions are derived for the case when

recruitment of nonunion labor is allowed. These show that employment can be insensitive to small changes in product demand; that the wage may be either more or less than the marginal revenue product of labor; and that the firm may choose to operate in an x-inefficient manner.

A reinterpretation of the model relates these results to the work of W. Y. Oi on labor as a quasi-fixed factor. *Eastern Econ. J.*, July-Sept. 1986, 12(3), pp. 243-50. University of Warwick.

Caprio, Carl—Investment, Moral Hazard, and Occupational Licensing

The author analyzes occupational licensing as an input regulation that requires minimum levels of human capital investment by professionals. By raising professionals' training levels, licensing helps alleviate moral hazard problems associated with the provision of high quality services. It is shown that licensing and certification, whereby consumers are provided information about professionals, tend to benefit consumers who value quality at the expense of those who do not. Licensing may raise total surplus if sellers' investments are not observable, but is Pareto-worsening if training levels are observable. Certification may, however, lead to excessive investment as a signaling device. *Rev. Econ. Stud.*, Oct. 1986, 53(5), pp. 3-62. Princeton University.

vojnar, Jan—Bargaining Power, Fear of Disagreement, and Wage Settlements: Theory and Evidence from U.S. Industry

The paper develops and estimates a theoretical model of wage determination and union-nonunion wage differentials. It generalizes the Nash-Zeuthen-Harsanyi bargaining model by making the solution to the institutional concepts of bargaining power and fear or cost of disagreement and by making the outcome depend not only on endogenous but also on exogenous factors. Estimates based on twelve companies and unions indicate that the bargaining outcome often deviates from the Nash-Zeuthen-Harsanyi solution and that it varies significantly with exogenous factors. Estimates from most firms also support the efficient labor contract rather than marginal productivity theory. *Econometrica*, Sept. 1986, 54(5), pp. 1055-78. Cornell University.

Tobin, James—Inflation and Unemployment in the Share Economy

This paper first interprets Martin Weitzman's monopolistic competition analogy to the share economy, and notes the implications of this for the nature of "excess demand" in such an economy. The paper then focuses on the effects of the wage flexibility induced by sharing schemes. It is observed that Weitzman's analysis is entirely in terms of real, not nominal, variables. The paper concludes with a note on possible distributional conflicts in a share economy. *J. Compar. Econ.*, Dec. 1986, 10(4), pp. 460-63. Yale University.

822 Public Policy; Role of Government

Calcoen, F.; Eeckhoudt, L. and Outreville, J. F.—Indemnisation du chômage et revenus de remplacement: Une approche par la théorie de l'assurance (Unemployment Insurance and Damage Insurance: An Approach through the Theory of Insurance)

In this paper, taking into consideration the point of view of the insured, the authors compare the properties of unemployment insurance to those of damage insurance. They start by studying the hypothetical case of an unemployment insurance fully supplied by the private sector. They then turn to the more realistic case where private contracts are complementary to a compulsory public system. The analysis stresses the specific properties of the demand for unemployment insurance. *Schweiz. Z. Volkswirtschaft. Statist.*, Sept. 1986, 122(3), pp. 323-37 (French). Centre de Recherches Economiques, Sociologiques et de Gestion, France; Faculté universitaire catholique de Mons, Belgium; University of Laval, Quebec.

Deakin, Simon—Labour Law and the Developing Employment Relationship in the UK

The movement toward a dual system of employment protection in labor law and collective bargaining has created the conditions for a polarization of the employment structure and a widening division between core and marginal groups in the labor force. The absence of institutional protection for marginal workers accelerated the growth in atypical and low-paid employment even prior to the impact upon the labor market of policies of deregulation. Analy-

sis shows that legal evolution has been both a cause of, and a response to, changes in the social and economic structure of employment. *Cambridge J. Econ.*, Sept. 1986, 10(3), pp. 225-46. University of Cambridge.

Jones, Stephen R. G.—Unemployment Insurance and Involuntary Unemployment: The Case of Adverse Selection

The paper studies the private and public provision of unemployment insurance in a model where equilibrium unemployment results from the use of the wage as a worker selection device. It is shown that private provision will not occur, essentially because those workers most desired by a firm place least value on such coverage. Respecting the same informational constraints, public provision necessarily gives rise to some distortions in participation decisions, but nonetheless is welfare improving in the aggregate. *J. Public Econ.*, Aug. 1986, 30(3), pp. 317-28. University of British Columbia and Institute for Advanced Study, Princeton.

Kerns, Wilmer L.—Federal Employees' Retirement System Act of 1986

This article describes the provisions of the Federal Employees' Retirement System (FERS) for employees hired after December 31, 1983, including survivor annuities and disability benefits. It also explains how employees covered under the Civil Service Retirement System may freeze their earned benefits under that program and transfer to FERS during July-December 1987. The new system, which goes into effect on January 1, 1987, features a defined-benefit retirement plan to augment mandatory coverage under social security. It also permits FERS participants to contribute up to 10 percent of their earnings, on a tax-deferred basis, to a thrift savings plan, with partial matching by the government. *Soc. Sec. Bull.*, Nov. 1986, 49(11), pp. 5-10. Social Security Administration.

Wright, Randall—The Redistributive Roles of Unemployment Insurance and the Dynamics of Voting

Public unemployment insurance is analyzed as the majority voting equilibrium policy of a

dynamic stochastic economy. Abstracting from incentive effects, the author focuses on redistribution. Some results are: because of the distribution of heterogeneous employment opportunities, public insurance may be democratically chosen even if complete private markets exist. Because of the dynamics, even when agents are intrinsically homogeneous the equilibrium benefit level (or duration-benefit schedule) deviates from what has been described as optimal in the literature. The effects of differences in the average frequency or duration of unemployment on equilibrium taxes and benefits are investigated, with some unanticipated results. *Public Econ.*, Dec. 1986, 31(3), pp. 377-91. Cornell University.

823 Labor Mobility: National and International Migration

Borjas, George J.—The Self-Employment Experience of Immigrants

Self-employment is an important aspect of the immigrant experience in the labor market. Self-employment rates from immigrants exceed 15 percent for some national groups. Using the 1970 and 1980 U.S. Censuses, this analysis shows that self-employment rates of immigrants exceed those of native-born men; that there is a strong, positive impact of assimilation on self-employment rates; that more recent waves of immigrants are opting with increasing frequency for the self-employment option; and that part of the immigrant/native-born differential in self-employment rates can be attributed to "enclave" effects. *J. Hum. Res.*, Fall 1986, 21(4), pp. 485-506. University of California, Santa Barbara.

Goss, Ernst P. and Paul, Chris—Age and Work Experience in the Decision to Migrate

This study concludes that past migration research studies, by failing to control for years of work experience, have computed a coefficient for the age variable that is the summation of two oppositely signed factors. While age increases the psychic cost of moving and increases the length of the accrual period for benefits, thus inhibiting geographic mobility, it also increases the general skill level thus stimulating geographic mobility. By controlling for years of experience, this study more accurately

measures the impact of age on the migration decision and introduces a modification to the standard human capital model as presented in migration literature. *J. Human Res.*, Summer 1986, 21(3), pp. 397-405. University of Alabama.

folho, Ian—Theories of Migration: A Review

This paper sets out to review developments in the theory of labor migration. Key themes identified in the analysis relate to imperfect information and search, contracted versus speculative migration, the treatment of space and distance deterrence, the impact of demand side processes on the choice set faced by individuals, the interaction between preferences and constraints on the supply side, underlying motivations for movement, temporal dimensions, and problems in aggregation. With these themes in mind, the development of migration theory is traced from early classical perspectives through to the Harris-Todaro model, the human capital approach, stress models, random utility perspectives, and search theory. *Scot. Polit. Econ.*, Nov. 1986, 33(4), pp. 396-419. University of Newcastle upon Tyne.

24 Labor Market Studies, Wages, Employment

Andersen, P. S.—Keynesian and Classical Unemployment: Evidence from the Current Cycle

The paper attempts to explain the different labor market trends in North America and Europe. Using a model that integrates labor demand with the process of inflation, empirical estimates are made for the United States, West Germany, the United Kingdom and Belgium. The main conclusions are that in all four countries the recent changes in employment and unemployment have mainly been the result of real output developments. However, real wages have had a more unfavorable effect on employment and unemployment in Europe than in the United States. Moreover, the scope for a sustainable reduction of unemployment in the three European countries is limited by high real wages and/or a procyclical real wage behavior. *Eastern Econ. J.*, July-Sept. 1986, 2(3), pp. 223-36. Bank of International Settlements, Basle.

Barro, John M. and Loewenstein, Mark A.—On Imperfect Evaluation and Earning Differentials

This paper investigates the relationship between the technology for evaluating performance and optimal contract choice. Specifically, the paper examines the different compensation packages that arise when occupations differ in evaluation technology, workers are risk averse, work effort is endogenous, and there exists asymmetric information. In occupations in which it is less difficult to measure output, it is shown that compensation is more closely tied to output; the implications for work effort, the sorting of workers by ability, and average compensation are developed. Analysis of a new data set confirms the authors' predictions concerning earning differentials and wage growth. *Econ. Inquiry*, Oct. 1986, 24(4), pp. 595-614. Purdue University; Virginia Polytechnic Institute and State University.

Flaim, Paul O.—Work Schedules of Americans: An Overview of New Findings

This article represents an introduction to eight articles in the *Review* that discuss in detail, on a topic-by-topic basis, the time Americans spend working. The new information, not previously studied at the national level, was collected in May 1985 through a special supplement to the Current Population Survey. Data are provided on such topics as multiple jobholders, Saturday work and Sunday work, work outside typical daylight hours—usually in the evening, home-based work of at least eight hours a week, flexitime, preference for longer work weeks (and thus, more money) versus shorter work hours (and reduced earnings), and temporary help workers. *Mon. Lab. Rev.*, Nov. 1986, 109(11), pp. 3-6. Bureau of Labor Statistics.

Flinn, Christopher J.—Econometric Analysis of CPS-Type Unemployment Data

Analysts studying the unemployment experiences of population members often have access to data collected from a sample of individuals that contain the length of the ongoing spells of unemployment for sample members currently unemployed. No information regarding the lengths of ongoing employment spells is collected. This paper considers how such infor-

ration may be utilized in the estimation of parameters of alternating renewal process models of labor market attachment, in the presence of both observed and unobserved population heterogeneity. A number of models are presented, and estimation is carried out using a CPS-type data set from Italy. *J. Human Res.*, Fall 1986, 21(4), pp. 456-84. University of Wisconsin, Madison.

Heckman, James J. and Hotz, V. Joseph—An Investigation of the Labor Market Earnings of Panamanian Males: Evaluating the Sources of Inequality

This paper presents empirical evidence on the determinants of labor market earnings and inequality for males in Panama. Using newly available microdata, it estimates earnings equations based on Jacob Mincer's measurement framework and compares them with those for other countries at various stages of economic development. It presents evidence on two aspects of inequality in less-developed economies: labor market segmentation and social stratification. It presents tests of the segmentation hypothesis, including several of the dual labor market hypotheses, and discusses their inherent ambiguity. It also presents evidence on the importance of family background for earnings determination and educational attainment. *J. Human Res.*, Fall 1986, 21(4), pp. 507-42. University of Chicago.

Horvath, Francis W.—Work at Home: New Findings from the Current Population Survey

In May 1985, the Bureau of Labor Statistics made its first attempt to determine the size of the home-base work force. "Work at home" is defined as only that which is done as part, or as an extension, of one's primary job. While more than an estimated eighteen million people responded affirmatively to the question regarding work at home, almost half of them worked at home for less than eight hours a week. Another 770,000 were farmers or farm laborers. The remainder, nearly 8.4 million persons, had worked at home for eight hours or more in the reference week. They are the focus of this article's analysis. *Mon. Lab. Rev.*, Nov. 1986, 109(11), pp. 31-35. Bureau of Labor Statistics.

Lovell, Michael C.—A Quick Fix for the Unemployment Estimate

The seasonally adjusted unemployment estimates released on the first Friday of each month are shown to be subject to substantial revision error. This paper finds that a "rational expectations" approach to the problem provides a "Quick Fix" strategy that reduces the size of revision errors and smooths out much of the bogus bounce in the estimated month-to-month change in the unemployment estimates. A considerable gain in accuracy can be achieved by reducing the initially reported change in the seasonally adjusted unemployment rate by a factor of one-third. *Brookings Pap. Econ. Act.*, 1986, (2), pp. 520-32. Wesleyan University.

Moulton, Brent R.—Human Capital Accumulation and Trends in the Male-Female Wage Gap in the United States, 1956-1983

This paper considers the importance of components of human capital, i.e., education, experience, and on-the-job training, to explaining changes over time in the male-female wage gap in the United States. Special emphasis is given to measuring actual labor market experience of the female work force. A new relative quality index is created and its changes over time are found to be closely related to changes in relative wages over this period. *Eastern Econ. J.*, July-Sept. 1986, 12(3), pp. 265-71. U.S. Bureau of Labor Statistics.

Peck, Merton J.—Is Japan Really a Share Economy?

Martin Weitzman claims that Japan is a "living laboratory" for the share economy. This paper examines that proposition and concludes that Japanese bonuses are better interpreted as disguised wage payments than as profit shares. Other institutional features of the Japanese labor market provide more likely explanations of that economy's performance. *J. Compar. Econ.*, Dec. 1986, 10(4), pp. 427-32. Yale University.

Pozo, Susan and Woodbury, Stephen A.—Pensions, Social Security, and Asset Accumulation

In this paper, the authors use a sample of households from the 1983 Survey of Consumer

Finances to examine the influences of private pensions and Social Security on two variables: the age of planned retirement and nonretirement asset holdings. The results are consistent with the idea that increased private pension wealth induces both earlier planned retirement and greater nonretirement asset holdings (presumably to finance the anticipated longer retirement period). Further, the findings suggest that greater Social Security wealth may induce slightly earlier planned retirement, but has little influence on nonretirement asset accumulation. *Eastern Econ. J.*, July-Sept. 1986, 12(3), pp. 273-81. Western Michigan University; Michigan State University.

Sickles, Robin C. and Taubman, Paul—An Analysis of the Health and Retirement Status of the Elderly

This study uses five biennial panels of males in the Retirement History Survey to estimate a model of self-assessed health status and retirement status. Both are categorical dependent variables, which may be jointly determined. Heterogeneity among different individuals is controlled for using random effects. The authors outline Gaussian quadrature formulae to calculate and individual's contribution to the likelihood function, which involves ten-way integration of the normal density function. The results indicate that there is a trade-off between Social Security benefits and wages, and that there is a sharp decline in retirement before age sixty-two, the earliest date nondisabled men are eligible for benefits, suggesting substantial imperfections in capital markets. *Econometrica*, Nov. 1986, 54(6), pp. 1339-56. Rice University; University of Pennsylvania.

Simpson, Wayne—Analysis of Part-Time Pay in Canada

This paper analyzes the differences between part-time and full-time wages in Canada using the 1981 Survey of Work History. Since part-time and full-time workers are distinguished by hours worked, and since hours worked and wages are interdependent, selectivity bias occurs if ordinary least squares regression is used. A modification of Heckman's procedure, to account for the fact that part-time hours are doubly truncated, is used to correct this problem.

The results indicate that, adjusting for differences in characteristics, the wage differential between part-time and full-time workers is 10 percent, or one-third the unadjusted differential. Results vary somewhat by sex and marital status. *Can. J. Econ.*, Nov. 1986, 19(4), pp. 798-807. University of Manitoba, Winnipeg.

Stinson, John F., Jr.—Moonlighting by Women Jumped to Record Highs

New information collected in May 1985 through a special supplement to the *Current Population Survey* reveals a particularly sharp increase in the number of women with two jobs—by almost 40 percent between 1980 and 1985. This is another sign of the growing strength of their ties to the job market. Nearly 5 percent of working women are now multiple jobholders. The rate for men continued to hold steady at 5.9 percent. Data are presented by reasons for moonlighting, demographic characteristics, industry, hours of work, and earnings. Also provided are data from May 1970 to May 1985 for selected characteristics of multiple jobholders. *Mon. Lab. Rev.*, Nov. 1986, 109(11), pp. 22-25. Bureau of Labor Statistics.

Stobernack, Michael—Umfang und Struktur der stillen Reserve auf dem Arbeitsmarkt. Eine Schätzung auf der Grundlage des Sozio-ökonomischen Panels (Size and Structure of Hidden Unemployment in the Federal Republic of Germany.)

Due to the phenomenon of hidden unemployment, the validity of the German rate of unemployment as indicator for the imbalance of the labor market is limited. There are two possible solutions for calculation of hidden unemployment: modeling and survey. An example of each method is analyzed. Seventeen different estimates of hidden unemployment are resumed. The author's estimate is based on a representative survey, carried out in 1984 with 5,900 households including 12,358 persons. Hidden unemployment has been quantified as at least 760,000 in 1984. The structure shows that hidden unemployment is mostly formed of women, young people, and chronically unemployed. *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, 1986, 32(4), pp. 195-217 (German). Technical University, Berlin.

Williams, Donald R. and Register, Charles A.—Regional Variations in Earnings and the Gender Composition of Employment: Is "Women's Work" Undervalued?

In this study the authors attempt to determine whether the work of females is "undervalued" or "low valued," by testing the hypothesis that earnings in an occupation are related to the gender composition of employment in the occupation. The authors examine earnings variations within given occupations (across regions) so that across-occupation variations in the value of output can be controlled. The results, using aggregate data from the 1980 census for a cross section of fifty Standard Metropolitan Statistical Areas (SMSAs) support the hypothesis that women's work is undervalued in at least four of the eight occupations studied. *J. Econ. Issues*, Dec. 1986, 20(4), pp. 1121-34. Kent State University.

825 Productivity Studies: Labor, Capital, and Total Factor

Barbera, Anthony J. and McConnell, Virginia D.—Effects of Pollution Control on Industry Productivity: A Factor Demand Approach

Four major manufacturing industries are examined. The abatement effect on capital and labor productivity is determined from parameters of a system of factor demand equations that allow for disequilibrium in factor markets. The system is estimated for each industry with annual time series data from 1960 to 1980. Abatement requirements were found to retard both average capital productivity and average labor productivity in three of the four industries: paper, chemicals, and primary metals. For several industries in which factor productivity was slower after 1973, environmental controls accounted for a significant proportion of that slow down. *J. Ind. Econ.*, Dec. 1986, 35(2), pp. 161-72. University of Maryland, College Park; University of Maryland, Baltimore.

Haften, Charles R.—Productivity Change, Capacity Utilization, and the Sources of Efficiency Growth

The main result of the paper is that the growth rate of real short-run average cost can be decomposed into two terms: the growth rate of multi-factor productivity and the Berndt-

Fuss capacity utilization effect. This decomposition can be carried out using prices and quantities alone without resorting to the econometric estimation of the parameters of the production function. A second result explores the relationship between the true multi-factor productivity residual, real short-run unit cost, and the "false" multi-factor productivity residual obtained by erroneously assuming that all factors are fully flexible. It is shown that the growth rate of real short-run average cost equals the growth rate of the false residual, and that the false and true residuals differ by the Berndt-Fuss capacity utilization effect. *J. Econometrics*, Oct./Nov. 1986, 33(1/2), pp. 31-50. National Bureau of Economic Research and University of Maryland.

Mark, Jerome A.—Problems Encountered in Measuring Single- and Multifactor Productivity

This article discusses some of the problems the Bureau of Labor Statistics has encountered in developing productivity measures and explains the approaches taken to solve them. Despite recent progress, it is clear that inadequacies remain in the data available for measurement of both labor and multifactor productivity. In addition, multifactor productivity measurement presents challenging problems of shaping sometimes imperfect data into empirical measures that take advantage of recent theoretical advances. While they are useful for understanding factors affecting the traditional productivity movements, and many such measures have been developed, it is important to recognize that they do not have the same degree of precision that the labor productivity measures have. *Mon. Lab. Rev.*, Dec. 1986, 109(12), pp. 3-11. Bureau of Labor Statistics.

Neef, Arthur—International Trends in Productivity and Unit Labor Costs in Manufacturing

This article examines comparative annual average percent changes in manufacturing labor productivity and labor costs through 1985 in the United States and eleven other industrial nations. The comparisons are limited to trend measures only; reliable level comparisons of

manufacturing productivity and unit labor costs are not available. The measures for 1985 are preliminary. Data for other years are also subject to some revision. The article also provides comparisons of changes in U.S. manufacturing productivity and labor costs relative to a trade-weighted average of the eleven other countries. The weights used to combine the other eleven countries indexes into an average "competitors" index reflect the relative importance of each country as a manufacturing trade competitor as of 1980. *Mon. Lab. Rev.*, Dec. 1986, 109(12), pp. 12-17. Bureau of Labor Statistics.

830 TRADE UNIONS; COLLECTIVE BARGAINING; LABOR-MANAGEMENT RELATIONS

831 Trade Unions

Eberts, Randall W. and Stone, Joe A.—Teacher Unions and the Cost of Public Education

Do teacher unions affect the cost of public education? Based upon data from two national surveys, and holding measures of educational output and other factors constant, the authors of this paper find that teacher unions raise costs by 7 to 15 percent. The estimated differential is not reduced by treating unionization as endogenous, by distinguishing between large and small districts, or by distinguishing between districts in large and small cities. The union effect on cost works through teacher compensation, production technology, and factor use, and is borne primarily by taxpayers, with little or no effect on average student achievement. *Econ. Inquiry*, Oct. 1986, 24(4), pp. 631-43. University of Oregon.

White, Michael D.—Self-Interest Redistribution and the National Football League Players Association

The NFL Players Association's decision to seek increased collective determination of player compensation through a salary schedule in 1982 is explained in this study as being motivated by self-interest redistribution. Probit and multiple regression analysis are used to test whether the redistribution is consistent with median voter self-interest redistribution. The results indicate substantial redistribution in favor of the median voter with respect to experience. The Players Association's actions, which have been

criticized as being against the players' interests, appear consistent with the interests of a majority of the players. *Econ. Inquiry*, Oct. 1986, 24(4), pp. 669-80. St. Cloud State University, Minnesota.

832 Collective Bargaining

Tracy, Joseph—Unions and the Share Economy

This paper contrasts share bargaining and wage bargaining in the context of a "monopoly" model of union bargaining. In the example considered here, employment levels are identical under wage and share systems, but total compensation is higher under share bargaining than under wage bargaining, underscoring the importance of the broader context within which a share system is introduced. *J. Compar. Econ.*, Dec. 1986, 10(4), pp. 433-37. Yale University.

833 Labor-Management Relations

FitzRoy, Felix R. and Kraft, Cornelius—Profitability and Profit-Sharing

Claims that profit-sharing is a purely distributive "wealth confiscation scheme" without incentive effects (due to free-rider problems) are based on neglect of cooperation and interaction in the workforce. When these activities are difficult to monitor directly, group incentives such as profit-sharing can increase efficiency and maintain a superior Nash equilibrium with strictly individual optimization. With simultaneous WLS-Tobit estimates the authors find here strong effects of profit-sharing and worker ownership shares on residual owners' return on capital in medium-sized metal working firms in West Germany, complementing earlier results on productivity. *J. Ind. Econ.*, Dec. 1986, 35(2), pp. 113-30. International Institute of Management, Berlin.

840 DEMOGRAPHIC ECONOMICS

841 Demographic Economics

Cigno, Alessandro—Fertility and the Tax-Benefit System: A Reconsideration of the Theory of Family Taxation

This paper examines the implications of endogenous fertility (parental control over number of births) for the design of the tax-benefit system. The results obtained under the assumption of endogenous fertility differ considerably

from those obtained under the opposite assumption and from popular belief. In particular, it is shown that, if fertility is endogenous, a rise in the rate of child benefits would reduce the amount of resources (including parental time) spent on each child and, furthermore, that higher child benefits are not, in general, optimally associated with greater social preference for equality. Similar results apply to the taxation of earnings and bequests. *Econ. J.*, Dec. 1986, 96(384), pp. 1035-51. University of Hull, England.

Grossbard-Shechtman, Amyra—Economic Behavior, Marriage and Fertility: Two Lessons from Polygyny

This paper derives and estimates an index of the relative importance of children in marriage by comparing the effect of husband's income on the actual number of wives in the household with the demand for wives derived from the number of children in the household. Moreover, the paper presents the monogamy bias as a possible explanation for often observed low or negative-income effects on fertility. *J. Econ. Behav. Organ.*, Dec. 1986, 7(4), pp. 415-24. San Diego State University and Bar-Ilan University, Ramat-Gan, Israel.

Lassibille, Gérard—L'influence des événements familiaux dans la formation des revenus (The Effect of Family Events on Earnings)

By decomposing the professional experience of males and females as a function of major family events, an attempt is made to relate the advantage of marital union to the education level of the individual. The chosen approach analyzes as well the role of fecundity, doing so by isolating the effect of spacing of births and age at the first born on the salary profile. *Ann. Econ. Statist.*, Apr./June 1986, (2), pp. 101-16 (French). Institut de Recherche sur l'Economie de l'Éducation.

830 HUMAN CAPITAL; VALUE OF HUMAN LIFE

831 Human Capital; Value of Human Life

Fracharopoulos, George and Arriagada, Ana Maria—The Educational Composition of the Labour Force: An International Comparison

The most commonly used indicator of human resource development—enrollment ratios in the different levels of schooling—suffers from a number of defects, and the authors argue that a more accurate indicator is the educational attainment of the labor force. Relevant data have been collected for nearly 100 countries and are summarized into regional indices. Statistics on the mean years of schooling embodied in the labor force show significant differences in the human capital stock between world regions, as well as between countries within a given region. Such differences could be used to explain variations in economic growth patterns, or to assess relative priorities in educational investment. *Int. Lab. Rev.*, Sept.-Oct. 1986, 125(5), pp. 361-74. World Bank.

900 Welfare Programs; Consumer Economics; Urban and Regional Economics

910 WELFARE, HEALTH, AND EDUCATION

911 General Welfare Programs

Wolf, Douglas and Greenberg, David—The Dynamics of Welfare Fraud: An Econometric Duration Model in Discrete Time

An important source of errors in transfer payments programs is the fraudulent misreporting of earnings received by recipients. A model is proposed of the recipient's decision to report income and the expected penalties if caught engaging in fraud. The paper discusses several features of the detection and penalty structures in the AFDC and Food Stamps programs and estimates a model of the duration of fraudulent earnings-misreporting episodes. It finds that recipients respond to increases in the returns to fraud by lengthening their episodes of misreporting. However, the level of fraudulent activity at any given time is rather low. *J. Human Res.*, Fall 1986, 21(4), pp. 437-55. International Institute for Applied Systems Analysis; University of Maryland.

912 Economics of Education

Ransone, Thomas Baldwin—Planning Education for Economic Progress: Distinguishing Occupational Demands from Technological Possibilities

Given rapid evolution of technology, this essay argues that educational planners can promote economic progress better by providing universally the skills necessary to master the best technology than by meeting demands of existing or predicted occupational structures. It shows how recent commissions—the Paideia Group, the National Commission on Excellence in Education, the Task Force on Education for Economic Growth, and the Committee for Economic Development—and two economists—Philip Foster and Marc Blaug—ignore or misunderstand the principle of technological determination, and how the Morrill Act of 1862 and the GI Bill of 1944 successfully conformed to that principle. *J. Econ. Issues*, Dec. 1986, 20(4), pp. 1053–65. Western State College, Gunnison, Colorado.

913 Economics of Health (including medical subsidy programs)

Deweese, Donald N. and Daniels, Ronald J.—
The Cost of Protecting Occupational Health:
The Asbestos Case

This paper estimates the cost of reducing the mortality risk from asbestos exposure. The authors use a dose-response model to predict cancer-related fatalities caused by exposure to asbestos. They then estimate the cost of controlling these exposures in the workplace and calculate the cost per life saved at different exposure levels. It is argued that current government regulation in the United States and Canada controlling the amount of asbestos to which a worker may be exposed yields a cost per life saved far in excess of the costs for occupational accidents. *J. Human Res.*, Summer 1986, 21(3), pp. 381–96. University of Toronto.

Ellis, Randall P. and McGuire, Thomas G.—
Cost Sharing and Patterns of Mental Health
Care Utilization

Deductibles and coverage ceilings are common features of health insurance. This paper proposes and tests a new method for estimating the impact of these health coverage features on demand when total demand during a particular period is not known with certainty at the beginning of the period. The authors use expected end-of-year price as a proxy for the notion of "effective price" first suggested by—

Keeler et al. in a two-stage estimation procedure. Applying the method to the demand for ceiling yields estimated demand responses similar to those obtained by other researchers. *J. Human Res.*, Summer 1986, 21(3), pp. 350–79. Boston University and Health Data Institute.

Ellis, Randall P. and McGuire, Thomas G.—
Provider Behavior under Prospective Reimbursement: Cost Sharing and Supply

Prospective payment systems for health care constitute cost sharing on the margin for providers. A model of supply is developed showing that if physicians undervalue benefits to patients relative to hospital profits, prospective payment leads to too few services being provided. A "cost-based" system generally leads to an oversupply. The optimal payment system is derived in which the degree of supply-side cost sharing is considered a policy instrument. In most circumstances, the optimal payment system combines elements of both prospective and cost-based payment. This "mixed system" is shown to have desirable incentive and risk-reduction features. *J. Health Econ.*, June 1986, 5(2), pp. 129–51. Boston University.

Feldman, Roger and Dowd, Bryan—Is There
a Competitive Market for Hospital Services?

This paper estimates the price elasticity of payer-specific hospital demand curves. Each hospital is assumed to price discriminate among patients covered by various payers. Two methods are used. First, a pricing rule is derived from which payer-specific price elasticities may be inferred. Using data from thirty-one hospitals in Minneapolis in 1981, this method shows that hospitals had monopoly power in their markets for several private health insurance plans. These results are confirmed and extended to Medicare patients by a second method, which examines the distribution of each payer's admissions to determine if low-priced hospitals attract more patients. *J. Health Econ.*, Sept. 1986, 5(3), pp. 277–92. University of Minnesota.

Frank, Richard G. and Lave, Judith R.—The
Effect of Benefit Design on the Length of
Stay of Medicaid Psychiatric Patients

This paper examines the factors affecting the length of stay of Medicaid psychiatric patients

with a model of supply responses to different patient, environmental, and regulatory characteristics. The results indicate that providers respond to limitations in both coverage and reimbursement. Treatment of psychiatric patients is found to respond strongly to financial incentives, suggesting that in any study of the length of stay of psychiatric patients, the structure of their insurance coverage must be considered. This finding makes it difficult to infer medically appropriate patterns of care from observed length-of-stay data. *J. Human Res.*, Summer 1986, 21(3), pp. 321-37. Johns Hopkins University; University of Pittsburgh.

Grannemann, Thomas W.; Brown, Randall S. and Pauly, Mark V.—Estimating Hospital Costs: A Multiple-Output Analysis

This study explores a new approach to estimating the cost of inpatient and outpatient services provided by hospitals. Data from a nationwide survey of nonfederal, short-term U.S. hospitals are used to make cost estimates based on a multiple-output cost function. The results provide information on the structure of hospital costs, and include estimates of the marginal and average incremental cost of outpatient care. Because of the innovative specification of the cost function, the study is of interest for its methodology as well as empirical results. *J. Health Econ.*, June 1986, 5(2), pp. 107-27. Mathematica Policy Research, Inc., Princeton; Mathematica Policy Research, Inc., Princeton; University of Pennsylvania.

Jensen, Gail A. and Morrissey, Michael A.—Medical Staff Specialty Mix and Hospital Production

The authors analyze the role of medical staff characteristics in determining aspects of hospital output. Using flexible functional form production functions, and adjusting for case mix, the output contribution of physicians and other inputs, and the influence that physicians in different specialties have on the productivity of other physicians as well as on other inputs are examined. Hospitals' input substitution possibilities are also examined and the estimates are compared to those obtained by other researchers. It is found that physicians are an important input having numerous effects and conclude

that they should not be ignored in empirical cost and production function studies for hospitals. *J. Health Econ.*, Sept. 1986, 5(3), pp. 253-76. Hospital Research and Educational Trust, Chicago; University of Alabama.

Long, Stephen H.; Settle, Russell F. and Stuart, Bruce C.—Reimbursement and Access to Physicians' Services under Medicaid

Several recent studies have shown that physician participation in state Medicaid programs is directly related to the generosity of their reimbursement levels. The implication is that when states reduce fees, Medicaid eligibles suffer because their access to physicians' services is thereby limited. The results presented in this paper do not support this implication. Multivariate analyses of utilization and site-of-visit patterns among nonelderly Medicaid eligibles indicate that stringent physician reimbursement practices do not impede access to ambulatory care when all sites at which a doctor may be seen are considered. The policy implications of this finding are discussed. *J. Health Econ.*, Sept. 1986, 5(3), pp. 235-51. Congressional Budget Office, Washington, D.C.; University of Delaware, Newark; Pennsylvania State University.

Manning, Willard G., Jr. and Wells, Kenneth B.—Preliminary Results of a Controlled Trial of the Effect of a Prepaid Group Practice on the Outpatient Use of Mental Health Services

Using data from the Rand Health Insurance Study, which randomly assigned families into a prepaid group practice and a fee-for-service insurance plan, this study finds different patterns of outpatient mental health care for the two groups. In the absence of cost sharing, fee-for-service participants are as likely as PGP participants to visit formally trained mental health specialists, but with 2.8 times greater imputed expenditures. Thus, fee for service provides more intensive therapy. Because participants are random samples of the same population, these differences result from institutional differences (and patient incentives for cost sharing) rather than adverse selection. *J. Human Res.*, Summer 1986, 21(3), pp. 293-320. The Rand Corporation.

Schaub, Thomas—Bestimmungsfaktoren der Kosten eines Allgemeinspitals (Determinants of General Hospital Costs)

In this paper a cost function for general hospitals in Switzerland is estimated. The results indicate that both increasing the bed occupation rate and reducing average length of stay reduces hospital costs per case. No influence is found for hospital size, however. The number of medical specialities increases costs per case. Finally, costs per case are also influenced by the way in which the medical staff is organized. The study indicates that the data base has to be improved if policy relevant conclusions should be drawn from such analyses. In particular, more complete information on the case mix of the patients is needed. *Schweiz. Z. Volkswirtschaft. Statist.*, Dec. 1986, 122(4), pp. 641-56 (German). University of Basel, Switzerland.

Scheffler, Richard M. and Watts, Carolyn A.—Determinants of Inpatient Mental Health Use in a Heavily Insured Population

This paper estimates a model of the demand for hospital inpatient mental health services using data on enrollees in the Blue Cross/Blue Shield Association Federal Health Benefits Plan 1979-81. The econometric analysis focuses on the impact of increased copayments and deductibles in the high-option plan. The results provide evidence that increases in outpatient copayments and deductibles reduce the utilization of both inpatient and outpatient mental health services. Of interest is the negative income elasticity of demand for hospital inpatient services and positive association between the relative availability of mental health providers and the demand for mental health care. *J. Human Res.*, Summer 1986, 21(3), pp. 338-58. University of California, Berkeley; University of Washington.

Schoenman, Julie A. and Sloan, Frank A.—Why Have Surgeons Moved to the Country?

Recent empirical work on the question of physician location has focused on population as a location determinant. Standard economic theory suggests that determinants of *per capita* demand and amenity levels would also play a role. This is tested using a multivariate probit

estimator where the dependent variable indicates presence of a surgeon and a migration model where the annual net change in the "young" surgeon-to-population ratio is the dependent variable. Population positively influences the probability that the county has a surgeon and net immigration as in past work, but the authors find few systematic influences for demand and amenity variables. *Quart. Rev. Econ. Bus.*, Autumn 1986, 26(3), pp. 25-47. Center for Health Affairs, Project HOPE; Vanderbilt University.

Sloan, Frank A., et al.—Diffusion of Surgical Technology: An Exploratory Study

The study presents an empirical analysis of the diffusion patterns of five surgical procedures. Roles of payer mix, regulatory policies, physician diffusion, competition among hospitals, hospital size, and spread of technologies are examined. The principal data base is a time-series cross section of 521 hospitals. Innovation is more likely to occur in markets where payers are relatively generous, but marginal effects of payer policies are small compared to effects of other variables. Hospital rate-setting sometimes retarded diffusion. Certificate of need programs did not. Coauthors are Joseph Valvona, James M. Perrin, and Killard W. Adamache. *J. Health Econ.*, Mar. 1986, 5(1), pp. 31-61. Vanderbilt University.

Stoddart, Greg L., et al.—Tobacco Taxes and Health Care Costs: Do Canadian Smokers Pay Their Way?

Through their health care utilization, smokers are generally perceived to be imposing a financial externality on nonsmokers within health insurance systems. To investigate the empirical basis for this view, the authors estimated publicly financed health care expenditure attributable to smoking for the Canadian province of Ontario, and compared it to tobacco taxes paid by Ontario smokers. Both initial estimates and the results of sensitivity analyses performed on key assumptions and parameters of the estimation methodology rejected the hypothesized existence of a financial externality arising from smokers' health care utilization. Coauthors are Roberta J. LaBelle, Morris L. Barer, and Robert G. Evans. *J. Health Econ.*

Mar. 1986, 5(1), pp. 63-80. McMaster University, Hamilton, Ontario.

Torrance, George W.—Measurement of Health State Utilities for Economic Appraisal: A Review

This article reviews health status measurement for use in economic appraisal of health care programs, with particular emphasis on the measurement of health state utilities. Issues covered include alternative sources of utilities, health state descriptions, multi-attribute utility approach, determination of appropriate subjects, utility aggregation, and accuracy. Three measurement techniques for health state utilities are described in detail: rating scale, standard gamble, and time trade-off. The use of these methods is described for both chronic and temporary health states and for both health states considered better than death as well as those considered worse than death. *J. Health Econ.*, Mar. 1986, 5(1), pp. 1-30. McMaster University, Hamilton, Ontario.

Wagstaff, Adam—The Demand for Health: Some New Empirical Evidence

This paper presents some new estimates of the "pure investment" and "pure consumption" models of the demand for health. In contrast to previous studies, the paper presents parameter estimates of both reduced-form and structural demand for health care equations. The latter are obtained by treating health capital as a latent variable in a recursive equation system. The analysis of the pure consumption model differs from previous analyses in its recognition of the dependency of the shadow price of initial assets on the entire lifetime profiles of the model's exogenous variables. *J. Health Econ.*, Sept. 1986, 5(3), pp. 195-233. University of York.

Zweifel, Peter—Die Kosten-Versicherungs-Spirale im schweizerischen Gesundheitswesen (The Cost-Insurance Spiral in the Swiss Health Care Sector)

Beginning in the mid-1980s, the cost of health care has been increasing rapidly in Switzerland. At the same time, there has been a marked expansion of supplementary health insurance granting access to the (semi) private wards of

hospitals. This contribution asks the question whether the parallel development is to be interpreted as a cost-insurance spiral, of the type described by M. S. Feldstein (1973) for the United States. While microeconomic analysis would make such a spiral seem rather plausible for Switzerland too, only traces of it can be found in empirical work relating to the years 1976-80. *Schweiz. Z. Volkswirtschaft. Statist.*, Sept. 1986, 122(3), pp. 555-83 (German). Institut für empirische Wirtschaftsforschung, University of Zurich.

915 Social Security

Ycas, Martynas A.—Asset Holdings of the Newly Disabled: Findings from the New Beneficiary Survey

This article reports on the asset portfolios of married couples and single persons who recently began receiving disabled-worker benefits. It contrasts groups differing by age, marital status, and sex, using data from SSA's 1982 New Beneficiary Survey. Ownership of at least some type of financial asset was fairly widespread, but the median value was often quite small. Ownership of commercial assets was relatively uncommon. Most of the wealth reported was held in the form of home equity, but home ownership and indebtedness rates varied greatly by age and marital status. The disabled had relatively few assets overall. *Soc. Sec. Bull.*, Dec. 1986, 49(12), pp. 5-12. Social Security Administration.

Halpern, Janice and Hausman, Jerry A.—Choice under Uncertainty: A Model of Applications for the Social Security Disability Insurance Program

The authors specify a model of the application process for disability insurance, which is modeled as choice under uncertainty about approval of an application for disability insurance. The possible outcomes to the choice process of an individual in which probability of acceptance for disability insurance is a key consideration are specified. A joint model of labor supply and application to the Disability Insurance program based on the 1972 survey is estimated. Results are compared to the observed time series applications process since 1976. Lastly, the sensitivity of the application process to probability of

acceptance and level of benefits is estimated. *J. Public Econ.*, Nov. 1986, 31(2), pp. 131-61. Lexecon, Chicago; Massachusetts Institute of Technology.

Iams, Howard M.—Characteristics of the Longest Job for New Disabled Workers: Findings from the New Beneficiary Survey

This article describes the characteristics of the longest job held by new disabled-worker beneficiaries responding to questions in the 1982 New Beneficiary Survey. The characteristics include pension coverage, job duration, employer type, occupation, and industry. Many disabled workers reported having been covered by a pension plan. Pension coverage, pension receipt, and job tenure all increased with age, and older disabled workers had pension coverage similar to that of retired workers. Disabled and retired workers often differed in other job characteristics, but tended to become more similar with increasing age. *Soc. Sec. Bull.*, Dec. 1986, 49(12), pp. 13-18. Social Security Administration.

Karni, Edi and Zilcha, Itzhak—Welfare and Comparative Statics Implications of Fair Social Security: A Steady-state Analysis

This paper examines the steady-state welfare and comparative statics implications of fair social security in an overlapping generations model with uncertain lifetime. The model is designed to capture the effects of lifetime uncertainty extending over the individual's entire lifespan, the effects of intentional and unintentional bequests, and the effects of the earning profile. He shows that the welfare effects depend on the size of the benefits and the structure of the social security tax. In particular, even fair social security may have negative welfare implications if the underlying tax structure is ill-designed. Some comparative statics implications are analyzed. *J. Public Econ.*, Aug. 1986, 30(3), pp. 341-57. Johns Hopkins University; Tel-Aviv University.

Veall, Michael R.—Public Pensions as Optimal Social Contracts

A simple overlapping-generations model is modified to allow for an externality experienced by the young from consumption by the elderly. This sets up a game between generations in

which one strategy may be to save too little and rely on gifts from the young for retirement income. In such a model, pay-as-you-go social security can be a Pareto-optimal, "forced-giving" contract to restore efficient intertemporal allocation. *J. Public Econ.*, Nov. 1986, 31(2), pp. 237-51. McMaster University, Hamilton, Ontario.

Verbon, Harrie A. A.—Altruism, Political Power and Public Pensions

This article deals with the tax-transfer view on public pension schemes. It can be demonstrated that if workers are altruistic toward the elderly and decide on the benefit level of the public pension payment, then the Aaron condition, which is of importance in case the insurance view is adopted, shows up as well. Furthermore, it appears that for current decision making the future of the public pension system remains of importance. Next, in a representative democracy it appears that, in the particular form of the model used here, the influence of altruism cannot be separated analytically from the influence of political power. *Kyklos*, 1986, 39(3) pp. 343-58. University of Amsterdam.

916 Economics of Law and Crime

Lui, Francis T.—A Dynamic Model of Corruption Deterrence

The paper presents a model of corruption deterrence with a simple overlapping-generations structure built into it. A crucial assumption is that when corruption becomes more prevalent in the economy it is harder to audit a corrupt official effectively. It is shown that this assumption may give rise to several stationary equilibrium levels of corruption. This possibility has been exploited to explain why sometimes a government may temporarily resort to an extremely severe deterrence policy and why the same deterrence scheme may imply quite different levels of corruption. A case study is provided to give empirical support to the model. *J. Public Econ.*, Nov. 1986, 31(2), pp. 215-36. State University of New York at Buffalo.

Yasiv, Gideon—Fraudulent Collection of Unemployment Benefits: A Theoretical Analysis with Reference to Income Tax Evasion

The harshest abusers of the unemployment insurance program are those employed who collect benefits while failing to report their employment. The paper analyzes fraudulent claiming behavior and optimal deterrence policy under two alternative penalty schemes, commonly used in tax evasion analyses; the one relates punishment to the magnitude of the dishonesty, whereas the other relates punishment to the amount of illegal returns. Two exclusive features of fraudulent benefit claiming are given special attention: the requirement to report at a labor exchange to demonstrate availability for work, and the need to serve a waiting period before benefits can be collected. *J. Public Econ.*, Aug. 1986, 30(3), pp. 369-83. Tel-Aviv University and National Insurance Institute, Jerusalem.

918 Economics of Aging

Sjogren, Jane—Retirement Age Women and Men: Income Sources and Work

This paper investigates the changes in income, income sources, and work behavior of women and men as they pass through the conventional retirement age of sixty-five. Using data from the Retirement History Survey, the study finds that women who are heads of households are substantially worse off in financial terms than their male peers. However, despite their frequently dismal economic status, older women are less likely than men to turn to work as a means of increasing their financial well-being. *Eastern Econ. J.*, July-Sept. 1986, 12(3), pp. 283-90. Simmons College, Boston.

920 CONSUMER ECONOMICS

921 Consumer Economics; Levels and Standards of Living

Harrison, Beth—Spending Patterns of Older Persons Revealed in Expenditure Survey

Since 1980, the Bureau of Labor Statistics Consumer Expenditure Survey has been conducted on a continuing basis. As a result, trends for age and other demographic groups can be more effectively monitored over time. This article is but one of a series highlighting results from the expenditure survey. It divides the 1984 population age 65 and over into two groups: ages 65-74 and 75 and over. The results reveal that, although persons 65 and over are

often viewed as a homogeneous group, the characteristics, incomes, and needs of the younger and older populations within the larger group are quite different. *Mon. Lab. Rev.*, Oct. 1986, 109(10), pp. 15-17. Bureau of Labor Statistics.

Montgomery, Edward—Where Did All the Saving Go? A Look at the Recent Decline in the Personal Saving Rate

The inadequacy of aggregate saving is often cited as an explanation of low levels of capital accumulation and productivity growth in the United States. Aggregate saving is low, in large part, because of the steep decline in the personal saving rate that has occurred since 1975. This paper uses a modified life-cycle model to analyze the determinants of this recent decline in the personal saving rate. The empirical results do not support the hypothesis that the decline in the saving rate was the result of a reduction in the real rate of return. The reduction in the rate of growth of income and the changing demographic profile of the labor force are the most important factors in accounting for the fall in the personal saving rate. *Econ. Inquiry*, Oct. 1986, 24(4), pp. 681-97. Michigan State University.

Neldner, Manfred—Preisniveauschwankungen und privater Konsum: Zur empirischen Bedeutung des Pigou-Effekts in der Bundesrepublik Deutschland (Price Level Changes and Private Consumption: The Empirical Relevance of the Pigou-Effect in West Germany)

In West Germany price level fluctuations significantly influence real private consumption expenditures, in the manner suggested by Pigou in his famous attack on Keynes's theory of employment. This is demonstrated by estimating three different groups of consumption models using one-stage least square techniques. The empirical relationship between price level changes and real consumption, however, is open to various theoretical interpretations: besides the Pigou effect proper a neoclassical cash balance effect, a price illusion effect or a so-called negative income effect may have been at work as well. *Weltwirtschaft. Arch.*, 1986, 122(3), pp. 534-51 (German). Universität Osnabrück.

Tachibana, Toshiaki and Shimono, Keiko—
Saving and the Life-Cycle: A Cohort Analysis

This paper examines the "life-cycle hypothesis" with reference to Japanese employees. The study is based on panel data created from successive cross-section data, which is expected to give better results than past studies. The sample was categorized by many elements. One important result is that empirical testing of the saving and the life-cycle is crucially dependent upon the samples. It is found that the majority of Japanese employees have not accumulated wealth enough to assure consumption during retirement. The paper, however, did not reject a hump-shaped course of wealth accumulation under the assumption of myopic behavior. *J. Public Econ.*, Oct. 1986, 31(1), pp. 1-24. Kyoto University; Nagoya University, Japan.

Takacs, Wendy E. and Tanzer, Ellen P.—
Structural Change in the Demand for Automobiles by Size Class

This article tests the hypothesis that the gasoline crises of 1974 and 1979 caused a demand shift from large to small cars and an increased propensity of consumers to substitute the small, more fuel efficient models for the large in response to a rise in the price of gasoline. The authors estimate separate demand equations for subcompact, compact, and large cars—intermediates, full sizes, and luxuries—and enter in each equation dummy variables separating the pre- and post-crisis periods to test for the increased propensity of consumers to substitute small for large cars in response to a rise in that price. The impact of the crises on aggregate sales of new cars by size class is also estimated for each post-crisis year. *Quart. Rev. Econ. Bus.*, Autumn 1986, 26(3), pp. 48-57. University of Maryland, Baltimore.

Taylor, Grant A. and Johnson, Lester W.—
The Frisch Conjecture and Demand Systems

In 1980, Ragnar Frisch wrote his now famous passage concerning the likely values of the income elasticity of the marginal utility of income (commonly known as the Frisch parameter). The empirical validity of the Frisch conjecture, however, is extremely difficult to test with commonly used demand systems. This paper dis-

cusses the issues of internal (within a data set) and external (across data sets) testing of the conjecture and provides a small illustrative external test using data for Australia and Sweden. Results also illustrate the sensitivity of Frisch parameter estimates to choice of demand system and serve as a warning to those researchers who use previously estimated values of the parameter in policy analysis. *Quart. J. Bus. Econ.*, Winter 1987, 26(1), pp. 63-77. University of Southern California, Los Angeles; Macquarie University, North Ryde, New South Wales, Australia.

Termorshuizen, J. G.; Moudonberg, M. T. G. and Wierenga, B.—Consumer Behaviour in Respect of Milk in the Netherlands

In this paper, consumer behavior in the Netherlands in respect of milk is investigated using a model based on the EKB model, a so-called integrated model of consumer behavior. It is established that liquid milk is perceived as a neutral drink: not ordinary or luxury, as a food not a drink for pleasure, and not as being refreshing. Liquid milk is perceived differently at varying times of consumption during the day. The most important socioeconomic variables explaining individual differences in consumer beliefs regarding milk are: age, level of education, and residential area. *Europ. Rev. Agr. Econ.*, 1986, 13(1), pp. 1-22. Post and Telecommunications, The Hague; Agricultural University, Wageningen, the Netherlands; Graduate School of Management, Rotterdam.

Venti, Steven F. and Wise, David A.—Tax-Deferred Accounts, Constrained Choice and Estimation of Individual Saving

The paper analyzes the effect of tax-deferred individual retirement accounts (IRAs) in the United States on net individual saving. The results are based on a model of constrained optimization with the limit on tax-deferred saving the principle constraint. The estimates suggest that contributions to IRAs represent substantial net saving increases. Were the IRA limit to be increased, only about 10 to 20 percent of the resulting increase in IRA contributions would be taken from other savings. About 50 percent would come from reduced consumption and about 35 percent from reduced taxes. *Acc.*

Econ. Stud., Aug. 1986, 53(4), pp. 579-601. Dartmouth College; Harvard University.

Viscusi, W. Kip; Magat, Wesley A. and Huber, Joel—Informational Regulation of Consumer Health Risks: An Empirical Evaluation of Hazard Warnings

On the basis of data from a survey of almost 400 consumers, this article assesses whether consumer behavior is responsive to information about product hazards that is provided in response to regulation. The authors find that the extent to which consumers take precautions is consistent with the level of risk indicated, the amount of risk information, the specific risk and precaution indicated, and the economic benefits of safety precautions. The patterns of precautionary behavior are also used to analyze the implicit value of the morbidity effects and to assess the consistency of consumer choices. The findings support the use of product-hazard information as an alternative to more direct regulation of safety risks. *Rand J. Econ.*, Autumn 1986, 17(3), pp. 351-65. Northwestern University; Duke University; Duke University.

930 URBAN ECONOMICS

931 Urban Economics and Public Policy

Scotchmer, Suzanne—The Short-run and Long-run Benefits of Environmental Improvement

The social value of a nonmarginal improvement to amenities is not related to hedonic prices in a simple way. Furthermore, hedonic price data do not completely reveal preferences. In order to evaluate short-run benefits of an improvement, the rate of change of the hedonic price function must be normalized by a ratio of population densities. To calculate long-run benefits of the improvement, one must calculate the responsiveness of population densities to the nonmarginal improvement. A technique to do so is suggested. *J. Public Econ.*, June 1986, 30(1), pp. 61-81. Harvard University.

932 Housing Economics

Börsch-Supan, Axel—Household Formation, Housing Prices, and Public Policy Impacts

The paper specifies and estimates a model of housing demand that explicitly includes the

decision of individuals to form independent households. Parameter estimates reveal a considerable response of headship rates not only to income, but also to housing prices. Analysis of housing policies ignoring the endogeneity of household formation is thus potentially biased. The model is employed to evaluate the effects of a housing voucher program. Simulated responses indicate that such a program creates a substantial additional demand for housing due to its positive impact on the propensity of young and elderly persons to live independently. *J. Public Econ.*, July 1986, 30(2), pp. 145-64. Harvard University.

Gerber, Robert I.—The Comparative Static Response of Rental Housing to a Price Change: Inflation and Government Policy

A two-period consumer choice model is presented in which housing is treated as a quality differentiated good. The short-run comparative static response of rental housing to a price change is examined via an example, an exogenous increase in the inflation rate. Two stylized facts are alternately used; interest income is taxed, and interest rate ceilings are imposed on small savings deposits. The partial equilibrium distributional impact of inflation, in the context of rental housing markets, is also discussed. *J. Reg. Sci.*, Nov. 1986, 26(4), pp. 731-43. State University of New York at Albany.

Parsons, George Russell—An Almost Ideal Demand System for Housing Attributes

Demand functions are estimated for four housing attributes: housing size, housing features, housing quality, and neighborhood quality. The model is a restricted version of Sherwin Rosen's implicit market model in the form of Angus Deaton and John Muellbauer's Almost Ideal Demand System. Housing markets are assumed to be segmented by city of location and time period, a sufficient restriction for identification of the parameters of the demand functions. Conventional properties of consumer behavior are maintained hypotheses. Estimated price and expenditure elasticities are presented, and a practical application of welfare measurement using the results is presented for an exogenous, nonmarginal improvement in neighborhood quality. *Southern Econ. J.*, Oct.

1986, 53(2), pp. 347-63. University of Delaware, Newark.

933 Urban Transportation Economics

Dodgson, J. S.—Benefits of Changes in Urban Public Transport Subsidies in the Major Australian Cities

This paper considers the economic efficiency benefits of urban public transport subsidies and presents estimates of the marginal benefits of fare and service level changes in the main Australian cities. Models are outlined, and estimates compared of the benefits to public transport and other road users of fare and service level changes in different cities. Existing urban public transport subsidies might be more effective from an economic efficiency point of view if frequency levels were reduced and the consequent cost savings used to finance lower levels of fares. *Econ. Rec.*, June 1986, 62(177), pp. 224-35. University of Liverpool.

940 REGIONAL ECONOMICS

941 Regional Economics

Booth, Douglas E.—Long Waves and Uneven Regional Growth

The central thesis of this article is that regions experience long periods of sustained rapid economic growth followed by relatively lengthy periods of slow economic growth. The fundamental reason for lengthy periods of poor growth is an absence of entrepreneurial activity during the sustained growth phase needed to create new industries that will replace old industries at the end of their product life cycles. Historical data on manufacturing employment growth and regression results on the determinants of new incorporations are presented to support the long wave theory. *Southern Econ. J.*, Oct. 1986, 53(2), pp. 448-60. Marquette University.

Löfgren, Karl Gustaf—The Spatial Monopsony: A Theoretical Analysis

In this paper some of the most important properties of the behavior of a spatial monopsonist are derived. Many results are mirror images of corresponding results for the spatial monopolist. A few results are, however, genuinely new. A lot of effort is spent in comparing the properties of the profit function under three different pricing policies, f.o.b. (mill) pricing,

uniform delivered pricing, and spatial price discrimination. It is shown, for example, how the profitability and welfare consequences of the different policies are related to the shapes of the supply and demand functions. It is argued that the theory may have important applications in economic analyses of renewable natural resources such as forests, where total transportation costs are nonnegligible. *J. Reg. Sci.*, Nov. 1986, 26(4), pp. 707-30. Swedish University of Agricultural Sciences.

Mathis, Stephen A. and Posatho, Robert C.—Local Government Expenditures and Private Sector Output: Theory and Evidence on Crowding Out at the Regional Level

The rationale underlying the focus of this article is the crowding-out hypothesis. The term "crowding out" is interpreted to encompass not only the traditional implications of debt creation, but also any associated tax effects. Methodologically, the article utilizes a basic production-oriented classical model to examine the effects of local government fiscal decisions on privately produced output in metropolitan areas. *Quart. Rev. Econ. Bus.*, Autumn 1986, 26(3), pp. 105-15. Shippensburg University of Pennsylvania.

McGuire, Martin C.—Private Production, Collective Consumption, and Regional Population Structure: The Interactions between Public and Private Good Provision as Determinants of Community Composition

Theories of trade and migration explain the distribution of individuals among regions based on private good productivities. The theory of local public goods (LPGs) uses collective good consumption economies to explain the size and composition of communities. This essay combines the two theories, to explore regional population heterogeneity and stability. Assuming that individuals must consume and produce in the same jurisdiction, the paper examines the nature of efficient allocations, the tensions between the private and public incentives, the nature of the equilibrium (if any) that migration among jurisdictions will generate, and how such equilibrium will depend on tax rules for sharing the costs of the LPG. *J. Reg. Sci.*, Nov. 1986, 26(4), pp. 677-705. University of Maryland.

Salant, David J.—Equilibrium in a Spatial Model of Imperfect Competition with Sequential Choice of Locations and Quantities

This paper addresses the issues of existence of a pure strategies Nash equilibrium in a simple, general equilibrium spatial model. The model is fairly standard, with two exceptions: firms choose quantities, instead of prices, as well as their locations. Additionally, the market has endpoints. Firms choose locations one at a time and before making their quantity choices. The sequential choice of locations and then quantities, instead of prices, is argued to be both more realistic for many types of markets, and analytically convenient. The existence of endpoints will have important implications on the nature of equilibrium. *Can. J. Econ.*, Nov. 1986, 19(4), pp. 685-715. Virginia Polytechnic Institute and State University.

Thore, Sten—Spatial Disequilibrium

The well-known extremal principle for the solution of spatial equilibrium for a single commodity (Paul Samuelson [1952]) is extended to deal with the case of disequilibrium caused by rigid prices and/or price controls. Both disequilibrium in consumer markets and in factor markets is covered. The study of disequilibrium is

well known in general interdependent economic systems (the so-called fixed-price model of interdependent systems). The present work extends this approach to the spatial dimension, and shows how it is possible to represent and solve disequilibrium models by mathematical programming rather than by fixed-point techniques. *J. Reg. Sci.*, Nov. 1986, 26(4), pp. 661-75. University of Texas at Austin.

Wheat, Leonard F.—The Determinants of 1963-77 Regional Manufacturing Growth: Why the South and West Grow

This paper analyzes 1963-77 manufacturing employment growth in the forty-eight contiguous states. Six factors jointly explain 96 percent of the variance. Markets explain 55 percent; climate, 15 percent; a rural state attraction, 11 percent; unionization, 6 percent; thresholds, 5 percent; and amenities, 4 percent. Resources, taxes, and business climate lack significance. Sunbelt-Frostbelt is a false dichotomy; the Northwest grew as fast as the South. The real contrast—largely caused by markets—is between growth rates of 6 percent in the Manufacturing Belt, 35 percent in its bordering Transition Zone, and 58 percent in the combined South and West. *J. Reg. Sci.*, Nov. 1986, 26(4), pp. 635-59. U.S. Department of Commerce

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The list, produced by computer, is alphabetized letter by letter; the entry is then truncated to the last name and initials. This method leads to such anomalies as: (1) an author may be listed twice if only initials appear in one article and full name(s) in another; (2) alphabetization may appear to be incorrect on the second initial.

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5.

A Survey of Alternative Models of the Aggregate U.S. Labor Market

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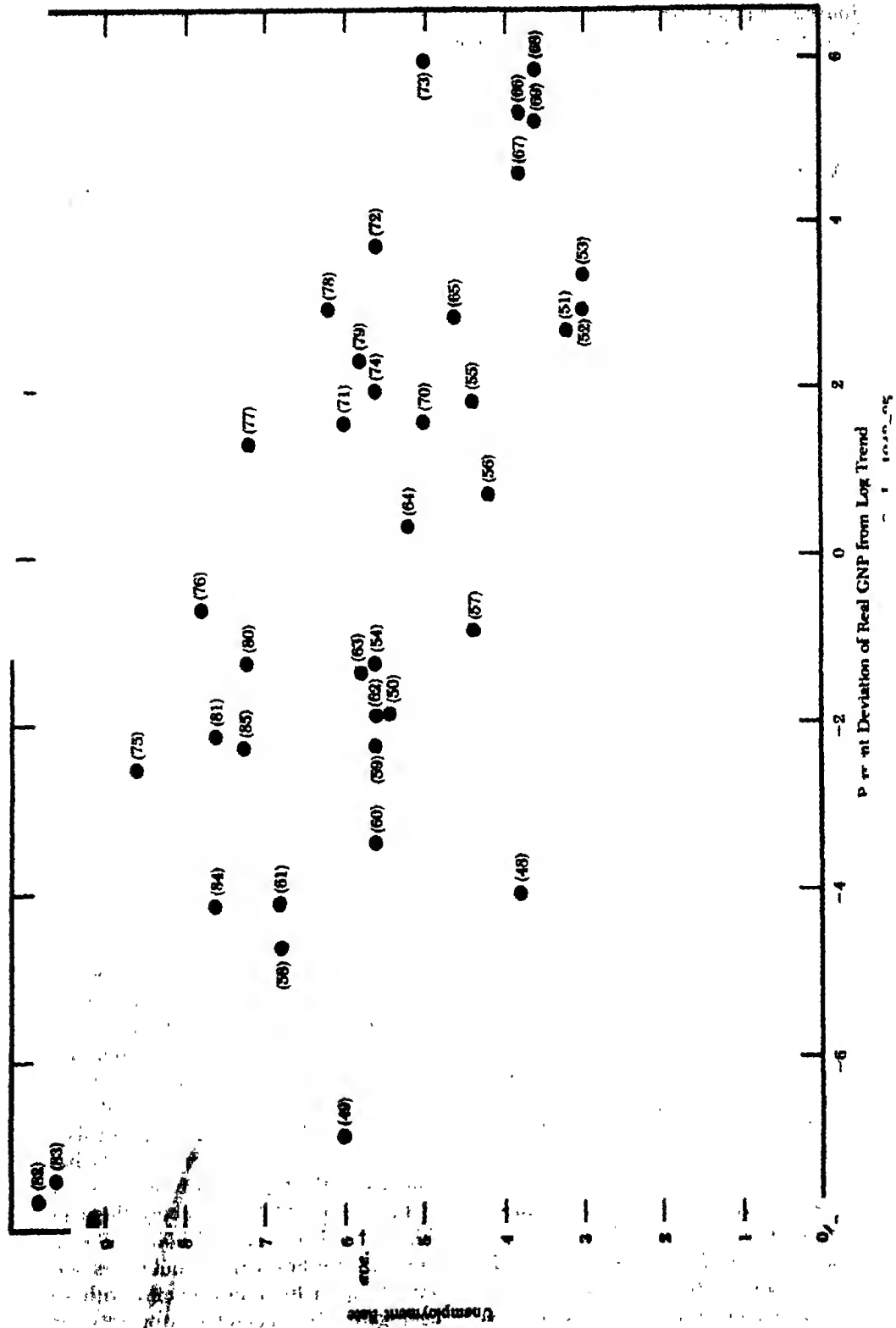
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I. Introduction

THE AUCTION-MARKET ANALYSIS of prices and quantities is the core of neoclassical economics; however, as we will see, viewing the aggregate labor market as an auction has not proved particularly useful for understanding cyclical fluctuations in employment, unemployment, and the real wage. Do any of the theoretical alternatives to the auction interpretation produce an empirically superior description of a U.S. recession, though? The purpose of this paper is to survey these issues and to summarize what econ-

omists can honestly tell students and policymakers concerning how the aggregate U.S. labor market operates when subjected to business cycle disturbances.

In the remainder of this section we lay the groundwork necessary to evaluate the state of our economic knowledge of the aggregate labor market. In particular, we first present macroeconomic facts that summarize the typical postwar recession in the United States. Keeping them in mind, we then examine how well this summary meshes with the outcomes one would expect from an economy with an aggregate labor market that operates as



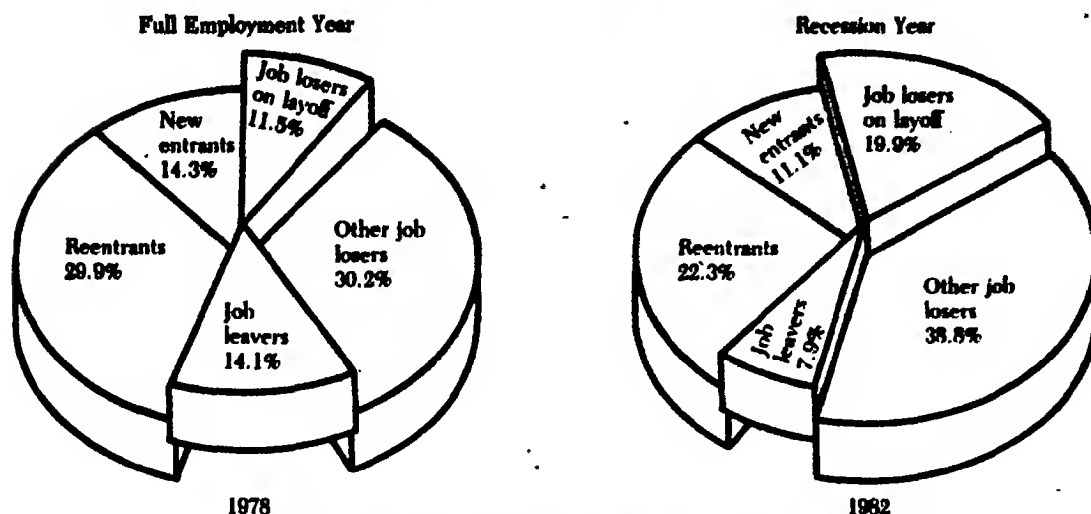


Figure 2. The Distribution of Unemployment by Reason

Note: Data relate to persons 16 years and over.

Source: *Economic Report of the President*, 1983, p. 35.

an auction, at least during the short term. The last part of this section previews the remainder of this review, which evaluates the literature attempting to test three types of theories of the aggregate labor market: (i) models that reformulate the basic auction analysis, (ii) models that view the aggregate labor market as characterized by persistent disequilibrium, and (iii) models that synthesize (i) and (ii) and treat workers and firms as governed by the outcomes of long-term contracts for labor services.

A. The Typical U.S. Recession

During the typical postwar U.S. recession, which lasts about 10 to 12 months, real GNP falls 2 to 3 percent, nonfarm employment falls 2 to 4 percent, and the unemployment rate rises 2 to 4 percentage points (Victor Zarnowitz 1985). The association between the business cycle and the unemployment rate is highlighted in Figure 1, where we plot the annual unemployment rate against annual proportionate deviations in real GNP from its postwar log trend. A regression equation fit to these data tells

us that, on average, the annual unemployment rate rises by about one-third of a point for each one percentage point shortfall of real GNP from its annual post-war log trend level.

The increased flows into unemployment during a recession stem mainly from new layoffs and firings. Quits, which are terminations of the employment relationship initiated by employees, fall dramatically. This is underscored in Figure 2 where we compare 1978, which is typically categorized as a full-employment year, to 1982, which is the worst recession year since the Great Depression. Finally, while many additional individuals claim to be interested in but unable to find work during a recession, the aggregate real wage does not decline. During the heart of the recent severe recession, 1981:IV to 1982:III, real compensation per hour in the nonfarm business sector rose by about 1 percent. More generally, the measured aggregate real wage in the United States moves randomly around a positive trend (Joseph Altonji and Orley Ashenfelter 1990). This result holds when either annual or quarterly data are

TABLE 1
REGRESSION ESTIMATES OF THE LINK BETWEEN THE BUSINESS CYCLE AND AGGREGATE LABOR MARKET OUTCOMES IN THE POSTWAR UNITED STATES^a

Dependent Variable (mean/std. dev.)	Real GNP ^b Elasticity (absolute t-value)	\bar{R}^2	Durbin-Watson ^d Statistic
Employment ^c (77639.4/15767.6)	0.44 (6.49)	0.99	1.41
Average workweek ^f (40.3/1.26)	0.20 (8.90)	0.98	1.54
Unemployment rate ^e (5.65/1.72)	-7.26 (9.92)	0.89	1.74
Nominal wage ^h (4.97/3.44)	0.004 (0.05)	0.99	1.94
Real wage ⁱ (9.23/1.86)	0.02 (0.38)	0.99	1.56
Manufacturing layoff rate ^j (1.63/0.53)	-6.21 (7.24)	0.71	1.81
Manufacturing quit rate ^k (1.95/0.57)	8.94 (10.64)	0.70	1.63

^a Annual data, 1948-85. Dependent variables and real GNP are in logs.

^b Base 1982, billions of dollars: Mean = 2097.2; std. dev. = 667.5. Estimation technique is maximum likelihood adjusting for serial correlation. Control variables are time and time squared.

^c From first-stage OLS regression.

^d From final-stage maximum likelihood regression.

^e Civilian employment (000s).

^f Household data, all civilian workers.

^g All civilian workers, 16+ years old.

^h All employees in nonagricultural establishments.

ⁱ Deflated to base 1982 using the GNP deflator for personal consumption expenditures.

^j 1948-81, when series stops. Average monthly rate per 100 employees.

^k 1948-81, when series stops. Average monthly rate per 100 employees.

used and means that the best predictor of next period's real wage is last period's real wage plus a constant.¹ This constant is given by the estimated intercept in a regression of the real wage on its value lagged one period.

For those readers interested in a more complete quantitative summary of postwar business cycles, Table 1 displays regression estimates of the elasticities of seven different aggregate labor market

outcomes with respect to annual movements in real GNP, controlling for a quadratic time trend. As just noted, probably the most startling results appearing in this table concern the associations between wages and real GNP. Table 1 underscores that both the aggregate real wage and the aggregate nominal wage are statistically independent of real output. Moreover, the elasticity of aggregate employment with respect to real GNP is over twice the elasticity of the average workweek with respect to real GNP. Thus, cyclic movements in labor utilization appear to be dominated by changes in the number of workers with jobs rather than characterized by short

¹ It is important to recognize, however, that Altonji and Ashenfelter did not consider many alternatives to this rather restrictive specification (a random walk with drift). More complex empirical specifications of the time-series process underlying real wage movements are examined in Thomas McCurdy (1982).

hours or worksharing arrangements. Any satisfactory model of the aggregate labor market must be consistent with these empirical regularities in Table 1. The next section examines how well the stylized facts developed in this section square with the most basic of all economic tools, supply and demand analysis, applied to the aggregate U.S. labor market.

B. An Auction Labor Market During a Recession

According to the basic supply and demand model of the labor market (for example, Belton Fleisher and Thomas Kniesner 1984, Chapter 5), wage-employment outcomes are viewed as the result of an auction between buyers and sellers of labor. Purchases and sales of labor services take place on a continuous basis, and the duration of the agreement is left unspecified. In particular, the agreement to sell (purchase) labor services lasts only until one party wishes to terminate it. Labor supply, which is presumed to be sensitive to wages, fringes, and (dis)amenities of the workplace, is conditioned by worker preferences and nonlabor incomes. In addition to the costs of labor, the demand for labor is sensitive to consumer product demand, the state of technology, and nonlabor input costs. Given the resulting labor supply and demand schedules, the neoclassical labor market has the characteristic of an invisible auction during which the wage is driven toward an equilibrium level. In such an auction, the real wage moves without hindrance to equate the demand for labor with the supply of labor at all times.

The purpose of an economic model of the labor market is to help us understand the influence of changes in the economic environment on labor market outcomes. For example, if new health hazards are introduced into the work environment,

employees are likely to request additional hourly compensation so that the labor supply curve shifts upward. In the long run, then, we should observe relatively higher wages and relatively less employment in comparatively dangerous jobs. Additional compensation for risk of this sort has been well documented in the empirical literature (Sherwin Rosen 1986). Moreover, the auction interpretation of the labor market has helped economists identify temporary wage differences, such as interregional wage differentials, which tend to be eliminated by mobility of labor and capital (Don Belante 1979). The neoclassical auction model has also proved useful in measuring the long-run forces accounting for cross-sectional differences in labor market outcomes, including the economic effects of labor unions (H. Gregg Lewis 1986). Of course, interpreting the labor market as an auction has not always been helpful in a cross-sectional context (Robert Smith and Ronald Ehrenberg 1983). More importantly, though, the concept of an auction for labor has been *particularly unsatisfactory* in helping economists understand aggregate changes in real wages, employment, and unemployment over time in an economy characterized by cyclic fluctuations in labor demand.²

Consider an aggregate economy with the single labor market depicted in Figure 3. This labor market is initially in equilibrium at point A with real wage $w(0)$ and employment $N(0)$. Now let product demand decline as the result of a recession. If firms could predict what would happen to the demand for their

² A word of caution is in order here. Macro empirical models that rely on the concept of a representative worker or firm may fail to produce structurally interpretable parameters, and simplistic applications of micro auction market models to the macroeconomy should be viewed skeptically (Thomas McCurdy 1986b).

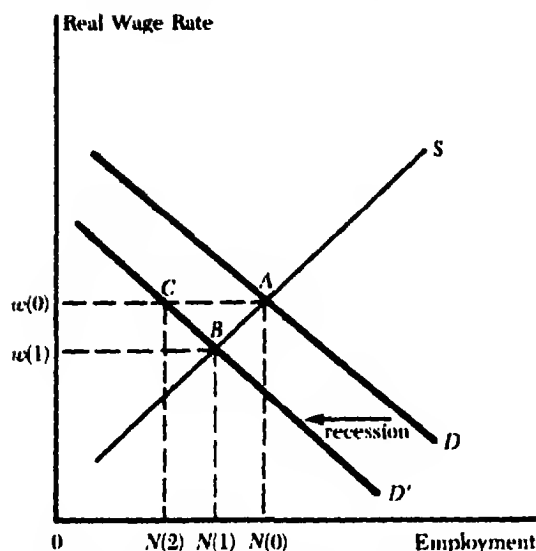


Figure 3. The Effects of a Recession in a Spot Market for Labor

products over the business cycle, and if goods (and services) could be cheaply stored for future sale, then a temporary decline in the aggregate demand for output would not necessarily lead to a similar decline in the demand for labor. Firms could maintain production and employment and hold the output for sale in the future; however, firms know neither the length of any given recession nor its effect on their sales, and output cannot typically be stored at low cost, or even stored at all. Finally, the behavior of buyers will change in unpredictable ways during the business cycle.

All this means that when the demand for output rises or falls, the demand for labor will tend to move in the same direction. Thus, profit-maximizing firms will want to reduce wage rates or their labor inputs during a recession. This generates the decline in labor demand to D' in Figure 3. The initial effect is excess labor supply at wage $w(0)$. If the real wage adjusts, then the auction model suggests a decline to $w(1)$ along with a reduction in the quantity of labor to $N(1)$. Exactly how is the employment level reduced?

In the postwar United States, the pre-

dominant portion of a typical recession-induced reduction in the aggregate labor input is a reduction in the number of employed workers, rather than a shortening of the average workweek. (Table 1 showed us that the proportionate variation in aggregate employment was more than twice that of the average workweek over the business cycle.) The reduction in the real wage level that would occur in an auction market during a recession moderates the extent of layoffs, though. As the real wage falls, some workers no longer find it optimal to participate in the labor force and they specialize, instead, in household production. Thus, a decline in production and labor demand leads to an increase in both layoffs and quits in the simple auction market described in Figure 3.

Once equilibrium is reestablished at point B in the auction market depicted in Figure 3, all those willing to work at (the lower) real wage $w(1)$ are able to work, and employment has declined to $N(1)$. The unemployment rate should again be at its so-called natural or normal level because equilibrium cyclical unemployment is zero in an auction market. Of course, the natural rate of unemployment associated with $N(1)$ may differ from the natural rate when employment is $N(0)$. If, as is commonly felt, normal unemployment is a micro phenomenon, and therefore, largely independent of the business cycle, then the normal unemployment *rate* will be higher at point B because the labor force is smaller by the amount $N(0) - N(1)$. Moreover, Allan Drazen (1985) argues that the loss of firm-specific training by laid-off workers further raises the normal unemployment rate. It is more important to note, however, that the economist's basic supply and demand model implies that the economy will be void of cyclical or involuntary unemployment even though the recession has reduced the demand for labor. There is a job available for everyone will-

ing to work at the lower real wage, $w(1)$.

To summarize, the stylized facts describing the typical U.S. recession are greatly at odds with the predictions of a simple supply and demand model of the aggregate labor market. In Section I.A. we saw that during a recession real wages do not fall, quits fall rather than rise, and unemployment increases (largely through layoffs) much more than the auction model leads us to expect. Can the inconsistency between the predictions of the simple auction model of the aggregate labor market and the macroeconomic evidence be readily explained?³

C. *Can the Auction Interpretation Be Easily Rescued?*

Given a recession-induced decline in production and labor demand, the labor market will not clear in the manner just described if the real wage does not fall. In this case the resulting employment and unemployment movements will conform to the aggregate data for the typical postwar U.S. recession. Specifically, if labor demand is reduced to D' but the real wage remains at $w(0)$ in Figure 3, employment will drop to $N(2)$. Because the real wage is unchanged, excess labor supply, or cyclic unemployment, equal to $N(0) - N(2)$, results. It is also unlikely that quits will be the source of this unemployment in light of a rigid real wage, so an economic contraction produces additional unemployment primarily composed of layoffs. Compared to the impli-

cations of an auction market with a flexible real wage, employment should now fall to a greater extent, $N(0) - N(2)$ versus $N(0) - N(1)$. Relatively low employment, $N(2)$, is expected to persist along with relatively high unemployment when the real wage is rigid.

The argument that real wage rigidity is responsible for cyclical unemployment and the other stylized facts describing U.S. recessions occupies an important role in simple Keynesian models of the aggregate economy (John M. Keynes 1936, 1939); however, simply to note that the aggregate real wage does not fall with employment during an economic contraction takes us no further intellectually than a mechanical explanation of observed labor market outcomes. What is needed is a convincing argument for the source of the real wage rigidity. Some economists attribute the inflexibility to transaction costs (Peter Howitt 1985) while others focus on long-term contracting (Costas Azariadis 1975, 1979). Institutional rigidities and customs have also been offered as an explanation for rigid real wages (Drazen 1980; George Akerlof 1980). A key aspect of this review is to evaluate the empirical support for these suggested reasons for aggregate real wage rigidity. In doing this our discussion always centers on whether labor market data suggest a model other than a simple auction. In the next section we examine attempts to rescue the auction interpretation of the aggregate labor market by developing more complex representations of labor supply and demand.

II. *Reformulations of the Auction Approach*

A. *Evidence Focusing on the Role of Labor Supply*

1. *Real Wage Misperceptions.* The seminal paper by Robert Lucas and Leonard Rapping (1969) focuses on an aggregate auction labor market where real

³ Practitioners of the so-called new time-series analysis have chosen to dispense with theoretically modeling the economic forces underlying macroeconomic outcomes and to focus, instead, on discovering the stochastic relations describing the cyclic properties of economy-wide data (see Robert Fildes and Daniel Rubinfeld 1981, Chapters 15-20). We ignore these efforts in this review, however, because "the fact that time-series models may produce better forecasts than econometric models simply points to the need for improving econometric models rather than replacing them by the ad hoc models of time-series analysis" (Jan Kmenta 1986, p. vi).

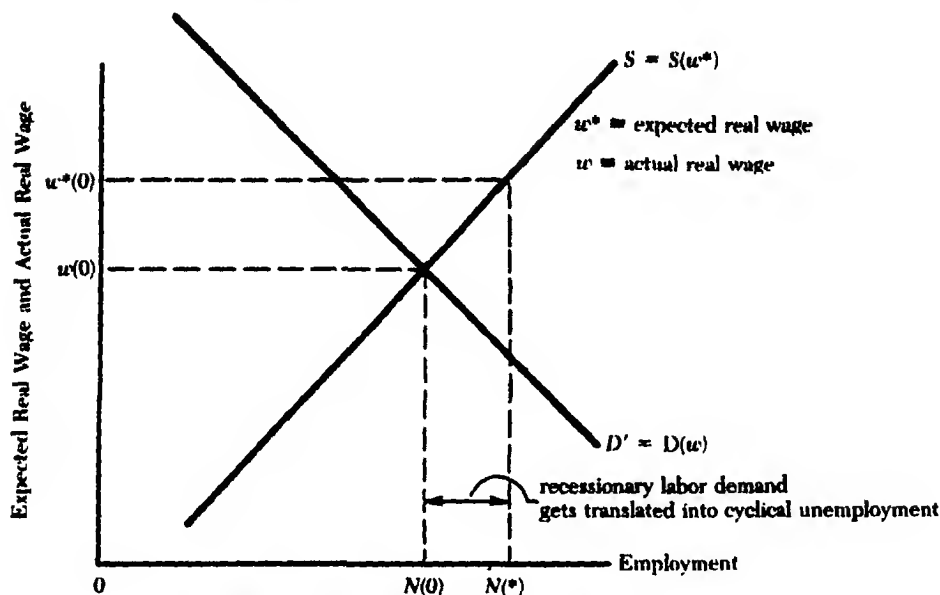


Figure 4. The Relationships Among the Current Real Wage, the Expected Real Wage, Labor Supply, and Cyclical Unemployment

wages are flexible, yet wage adjustments need not eliminate unemployment. The essence of their argument is that the unemployed do not represent a genuine offer to sell labor. So, while there may be an auction market in which the real wage adjusts in each and every period to equate labor supply and labor demand, there can be cyclical unemployment if workers' real wage expectations are not in line with reality. In particular, suppose that when a recession hits, some workers expect to be paid more than the actual real wage. As a result they try to supply labor in excess of the amount firms desire to hire, and this excess supply of labor will manifest itself in unemployment. The systematic movement in the difference between expected and actual real wages over the business cycle is what generates regular, cyclical unemployment in the economy just described.

To see this more carefully consider Figure 4, where the prevailing real wage is $w(0)$. The economy is in a recession and labor demand, which depends on the

actual real wage, is D' . If workers' expected real wage, $w^*(0)$, were identical to the prevailing real wage, then there would be no cyclical unemployment at the actual employment level, $N(0)$. In Lucas and Rapping's basic model, cyclical unemployment may exist because workers' labor supply depends on the expected real wage, which does not immediately adjust downward even if the actual real wage does. As a result, there is an excess supply of labor, $N(*) - N(0)$, at the prevailing real wage, $w(0)$.

It is important to note that this explanation of cyclic unemployment conforms nicely to some basic perceptions of the job-search behavior of the unemployed (see Dale Mortenson 1970). In particular, once searchers bring their real wage expectations in line with the prevailing real wage, cyclical unemployment will be eliminated. This suggests that if government agencies were to subsidize the collection, dissemination, and publication of job vacancy and current wage information, people would realize their true la-

bor market opportunities more quickly, which would in turn lower cyclical unemployment;⁴ however, the aggregate U.S. data do not seem to possess the real wage misperceptions necessary for this interpretation of cyclical unemployment to hold.

As we noted in the introduction, quarterly or annual movements in the aggregate real wage are neatly described as varying randomly around a positive trend. For the aggregate U.S. labor market, then, the correspondence between the actual real wage and the real wage imputed by various forecasting mechanisms is quite high.⁵ Altonji (1982) emphasizes this by considering a number of different expectations formation mechanisms, including rational expectations. This in turn implies quite small real wage misperceptions at the aggregate level. As a result, it is difficult to argue that such misperceptions form the basis of an explanation for cyclical unemployment within the context of an aggregate labor market model.⁶

2. The Substitution Hypothesis. Real wage misperceptions are certainly not required for cyclical unemployment to exist

⁴ Some anecdotal evidence is interesting here. During the 1982-83 recession, the Department of Labor ran a number of experiments designed to examine the efficacy of some new ways to reduce long-term unemployment including something known as a Jobs Club, which is a type of encounter group where people meet to discuss their feelings and problems associated with their unemployment. Such groups seemed to be a cheap way to get the long-term unemployed back to work. By discussing their situation Jobs Club members apparently obtain a more accurate estimate of their true labor market opportunities (wage offers), and lower their reservation wages and return to work more quickly than otherwise similar workers not in a Jobs Club (conversation with Malcolm R. Lovell, Jr., Under-Secretary of Labor, November 1982).

⁵ For example, $R^2 = 0.999$ in Altonji's (1982) forecasting equation for the aggregate real wage.

⁶ Of course, real wage misperceptions may still be important at the individual level but masked in the aggregate data. We return to this issue and how it relates to testing models of the aggregate labor market in Section II.A.5.

in the auction market set out by Lucas and Rapping. (This point is emphasized by Robert Hall 1980a, 1980b.) Observed cyclical patterns of employment and unemployment could also stem from workers substituting labor in one period for labor in another in the absence of any wage uncertainty. To see this, return to Figure 3 and interpret S as the short-run labor supply schedule. When the recession hits and demand declines to D' , downward pressure on the real wage leads to a reduction in employment and quantity of labor supplied to $N(1)$. Put differently, workers substitute their labor away from a time period (the recession) when the real wage may be temporarily low.

The substitution hypothesis of cyclical unemployment links the rise in unemployment during a recession to this voluntary withdrawal of labor by workers who wish to substitute current leisure for work in some future period when they expect the real wage to be higher. It is important to emphasize that under the substitution hypothesis workers can correctly perceive that their real wages are temporarily low during the recession, and some therefore withdraw from the labor force; however, it is possible for the $N(0) - N(1)$ workers in Figure 3 to be recorded in the aggregate statistics as unemployed. This could happen, for example, because workers interpret the Current Population Survey as asking "Would you take a job at your *normal* wage, $w(0)$?" instead of asking, "Would you take a job at the *current* wage, $w(1)$?"

Let us now do a quick "back-of-the-envelope" calculation to arrive at an estimate of the short-run aggregate labor supply elasticity necessary for the substitution hypothesis to have some credibility. As noted earlier, nonfarm employment falls about 2 to 4 percent during the typical postwar recession (Victor Zarnowitz 1985). Suppose, further, that we

weaken other results cited earlier and entertain the *possibility* that the real wage may fall, by say 1 percent, during a recession.⁷ Together these two pieces of information imply a minimum value for the wage elasticity of aggregate labor supply if the substitution hypothesis is to "hold water." Specifically, the aggregate supply of labor (expressed in terms of total employment) must have an elasticity with respect to the real wage of *at least* +2.0 if it is to provide the basis for an explanation of cyclical movements in aggregate employment and unemployment.

An important empirical issue, therefore, has been to determine whether an elasticity of this magnitude is consistent with econometric estimates of labor supply functions. This is less than straightforward because most empirical labor supply research investigates the determinants of (annual or weekly) hours of work per worker, whereas the predominant portion of the cyclic movements in the aggregate labor input is changes in the number of employed workers.

3. *The Aggregate Labor Supply Function.* The short-term wage elasticity of labor supply (total hours of work per household) that Altonji (1982) estimates from economy-wide annual data is more often negative or statistically insignificant than highly elastic ($> +2.0$). Altonji's conclusions concerning the lack of empirical support for the substitution hypothesis have been consistently supported in the research using aggregate U.S. data (Ronald Warren 1983; N. Gregory Mankiw, Julio Rotemberg, and Lawrence Summers 1985; John Seater 1985; Michael Luger and Dale Stahl 1986).⁸

Along these lines, Kim Clark and Lawrence Summers (1982) use both aggregate time-series and aggregate cross-section data (for states) to try to address the question of timing versus persistence in labor force participation rates. The substitution hypothesis requires dominant timing effects, whereby individuals seek employment when demand is above normal and leave the labor force when labor demand is below normal.⁹ Clark and Summers examine both labor force participation and employment as dependent variables in the aggregate labor supply function. Keep in mind that, according to the substitution hypothesis, workers who choose not to work because of a temporary decline in their real wage may be misclassified as unemployed. As a result, they will still be counted as labor force participants. In this way, using the labor force participation rate as the dependent variable may obscure the labor force movements implied by the substitution hypothesis. The evidence Clark and Summers present suggests that timing effects are of little or no importance in determining cyclic fluctuations in either employment or labor force participation. Their estimated elasticities of labor supply with respect to current wage changes are small and sometimes negative. They also find no evidence of a negative relationship between expected future wages and current labor supply, which is implied by the substitution hypothesis.¹⁰

4. *The Problem of Model Specification.* In tests of the substitution hypothesis, the utility function is usually assumed to be strongly separable over time so that

⁷ See Section II.C.3 for more discussion of the cyclicity of real wages in the United States.

⁸ Additional in-depth analysis of the aggregate time-series data for the United States in general is contained in Jeffrey Miron (1984, especially Chapter V).

⁹ This is also the essence of the early research on so-called added and discouraged worker effects and their relationship to "hidden" unemployment. See Jacob Mincer (1986).

¹⁰ For more elaboration on the issue of timing versus persistence see the exchange between James Heckman and Robert Willis (1979) and Jacob Mincer and Haim Ofek (1979).

the marginal utilities of current aggregate consumption and aggregate labor supply depend only upon current values of these two variables. Some economists contend that strong separability is inherently inconsistent with the substitution hypothesis because it constrains the relative size of the labor supply response (Finn Kydland and Edward Prescott 1982; Robert Barro and Robert King 1984; Joseph Hotz, Finn Kydland, and Guilherme Sedlacek 1986). They recommend basing empirical labor supply research on a less restrictive household preference function—one where the marginal utility of consumption or leisure in the current period depends upon consumption and leisure in other periods too; however, such a specification is quite complex and difficult to implement empirically. At present there is not enough empirical research to judge whether this greater complexity is worth the extra effort. More specifically, while Hotz et al. find evidence that current utility depends on leisure in previous years, Terry Johnson and John Pencavel (1984) estimate a dynamic model with intertemporal nonseparability and fail to find a wage elasticity of labor supply large enough to rescue the substitution hypothesis.

Concerning specification of a model of the aggregate labor market, Pencavel (1986) reminds us that while some researchers are regressing aggregate average hours of work on the aggregate average wage and interpreting the results in terms of labor supply income and substitution effects, other researchers are using the same data in quite similar regression equations and interpreting the results in terms of structural parameters of aggregate labor demand functions. The first group views the negative secular relationship between hours and wages, *ceteris paribus*, as a downward-sloping labor supply function, and the second group sees it as an inelastic labor demand

schedule. While both sets of researchers might be correct, it seems unlikely. In particular, the results in Luger and Stahl (1986) underscore how difficult it is to interpret regression equations estimated with aggregate data as demand and supply functions and then use them to test the hypothesis of whether the labor market clears. To our knowledge, no one addresses the identification problem satisfactorily, and we are hard pressed to see how it can ever be solved using aggregate labor market data unless labor supply and demand decisions are not based on neoclassical behavior whereby wages adjust to equate labor supply and demand.

5. *Microeconomic Studies of Labor Supply.* As we have just seen, research on the substitution hypothesis has generally assumed that the economy's aggregate labor market outcomes may be viewed as the result of the interaction between a representative household supplying labor and a representative firm demanding labor. Having noted this unrealistic assumption, it is important that we now address the issue of whether microeconomic studies of labor supply are of much value in testing the substitution hypothesis.

To be of any help, labor supply analyses of individual data must have several characteristics. First, they must incorporate uncertainty. By this we mean that the econometric methods must be appropriate to a situation in which the decision maker in a life-cycle labor supply model is uncertain about his or her economic future because of, among other things, business cycles. In this case, estimation requires a regression model involving a complex error structure reflecting accumulated forecasting mistakes (Richard Blundell and Ian Walker 1984; MaCurdy 1985a; Pencavel 1986). Second, in order to shed light on aggregate movements in employment, microeconomic research must account for changes in labor force

participation rather than variations in hours of work of the continuously employed. Third, while the empirical model may emphasize the role of the supply of labor, it must also specify something about the demand for labor. A partial analysis of annual labor supply may tell us very little about whether the labor market is an auction if only one side of the market is modeled econometrically. More specifically, we probably learn little about whether the aggregate labor market is an auction when the empirical analysis is of how individual workers respond to wage changes without any regard for the reason(s) underlying the wage change.

Although a number of microeconomic studies of labor supply¹¹ satisfy one or two of the three requirements set out in the previous paragraph, none we know of satisfies them all. While MaCurdy (1983) develops an econometric specification that allows direct estimation of the marginal rate of substitution between consumption and leisure and permits a clear role for economic uncertainty, he is primarily interested in the hours of work dimension of labor supply, as is Altonji (1984, 1986).¹² Although Heckman and MaCurdy (1980, 1982) address the issue of annual female labor force participation, they ignore uncertainty in wages and wage expectations. It is also hard to infer the business cycle's impact on annual labor force participation from the parameter estimates they present. More-

over, Heckman and MaCurdy conclude that transitory fluctuations in income have no effect on female labor supply behavior. In any event, because Heckman and MaCurdy do not really confront the short-run dynamics of aggregate female labor force participation, it is difficult to relate their research to the substitution hypothesis.

In light of the studies of labor supply just discussed, what might an ideal test of the substitution hypothesis look like when micro data are involved?¹³ First, it would surely need to produce econometric estimates of how individuals' short-run (say quarterly) employment-unemployment decisions respond to *unexpected cyclical* variation in their real wages. These micro labor supply relationships for various demographic groups would then have to aggregate into an economy-wide short-run response of employment to cyclical movements in the average real wage that, based on our earlier "back of the envelope" calculations, has an elasticity of at least +2.0. Identifying these underlying short-run micro labor supply functions is difficult with most existing data, which often just record individuals' annual totals for the relevant variables (in other words, the individual's decision-making period may diverge from the period to which the data relate); however, because monthly observations are available from the recent negative income tax experiments, it may be possible to use these data to examine the short-run labor supply (employment) decisions of low-income household members over the business cycle.¹⁴ In light of their eligibility for income support payments, low-income workers seem the most likely candidates to follow the behavior described by the substitution hypothesis. Should we fail to find support for the

¹¹ Mark Killingsworth (1983, Ch. 3-5) is a useful survey of this literature.

¹² Moreover, MaCurdy (1983) estimates a set of utility function parameters for low-income men that imply unbelievably large static labor supply elasticities. While the reasons for this result are not readily apparent, he speculates that they stem from the strong a priori restrictions necessary for identification when uncertainty is present and from the difficulty involved in statistically separating the effects of budget constraint shifts from utility function shifts within an intertemporal setting. Of course, this is the very essence of testing the substitution hypothesis.

¹³ We thank Jim Heckman for some useful insights on this issue; also see Heckman (1984).

¹⁴ See Jean Kimmel (in progress).

substitution hypothesis in these data, it seems unlikely we will find the needed empirical support elsewhere.

B. Evidence Focusing on the Role of Labor Demand

Having previously discussed the effect of a recession on the aggregate labor supply and demand schedules, let us now consider a business cycle expansion. In particular, let there be an increase in aggregate product demand that shifts the aggregate demand for labor from D to D' in Figure 5, where the nominal wage is measured on the vertical axis, and the price level is being held fixed as we move along the labor supply or demand schedule. The initial result is excess demand and job vacancies of $N(1) - N(0)$. Employers must now compare the relative costs and benefits of increasing their labor force versus seeking additional hours from existing employees.

The choice of how to vary the labor input depends upon the firm's forecast of future economic events as well as on the confidence they have in the accuracy of these forecasts (George Stigler 1939). Uncertainty over the future first leads firms to change hours of work per worker when the demand for their product and therefore labor shifts (M. Ishaq Nadiri and Sherwin Rosen 1969). Because of the fixed costs involved, such as hiring and training costs associated with changing the number of workers, an employment change will be the predominant adjustment only after employers conclude that the demand shift is more than just temporary.

Refocusing our attention on an economic expansion, within the Walrasian framework an attempt on the part of employers to secure additional labor services, leading to excess labor demand, will be accompanied by an increase in the nominal wage if the aggregate labor supply schedule is not infinitely elastic.

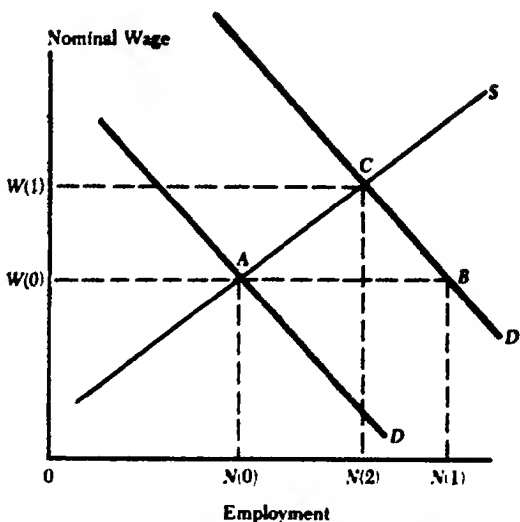


Figure 5. The Labor Market Effects of a Cyclical Increase in Demand

Although an expansionary demand shock of the type we have been discussing should increase the nominal wage, its effect on the real wage depends on the root cause of the increase in aggregate labor demand. For example, if the shift from D to D' in Figure 5 stems from an increase in product prices, then the change in the aggregate real wage depends on the variation in the nominal wage relative to the variation in the aggregate price level. If, however, changes in product price are not responsible for the increase in aggregate labor demand, then the real wage increases. Thus, the Walrasian model applied to aggregate outcomes yields unambiguous predictions regarding the impact of demand-side volatility on aggregate labor utilization and the nominal wage, but not on the real wage.

In any event, the ultimate increase in the money wage in an aggregate auction market for labor reduces the extent of excess demand and the requisite change in total labor services necessary to reestablish equilibrium. The new Walrasian equilibrium is point C in Figure 5. No-

tice that if the wage response to excess demand is incomplete, less than $W(1) - W(0)$, then the change in labor services utilized (supplied) is less than if wages are more flexible, that is, if they rise all the way to $W(1)$.

As a final background comment it should be mentioned that the elasticity of labor demand with respect to the wage rate could itself vary over the business cycle. Clearly, a procyclical wage elasticity would exacerbate the labor shortage associated with expansion and moderate the labor surplus during a business cycle contraction. Allan Drazen, Daniel Hamermesh, and Norman Obst (1984) develop a model where the wage elasticity of labor demand is lower for a sales-constrained firm than for an unconstrained firm. Because they assume that the proportion of firms facing sales constraints increases when aggregate economic activity declines, Drazen et al. expect a procyclical wage elasticity of aggregate labor demand. They use several different data sets, including quarterly time-series for U.S. manufacturing, to test this hypothesis and find weak support for it.

1. *Fluctuations in Output.* It is a useful empirical exercise at this point to refocus on whether wages, employment, and unemployment respond to fluctuations in demand-side factors in the general directions suggested by the neoclassical model applied to aggregate manufacturing data.¹⁵ Robert Gordon (1982) uses postwar quarterly data on manufacturing workers in the United States (as well as the United Kingdom and Japan) to esti-

mate the associations among changes in wages, employment, hours of work, and nominal GNP. These variables are measured as four-quarter overlapping rates of change for the periods 1962-72 and 1963-80. During each period the variability of both employment and hours of work, measured by the standard deviation of the four-quarter percentage rate of change, substantially exceeds the variability of the nominal wage in U.S. manufacturing. More specifically, the two measures of labor utilization in manufacturing are at least 60 percent more variable than the manufacturing nominal wage. Gordon also examines the association between the money wage and changes in nominal GNP, the latter interpreted as reflecting the variability of aggregate demand.¹⁶ His findings suggest that a 10 percent change in the growth rates of nominal GNP in the current and preceding eight quarters leads to only a 1.1 percent change in the growth rate of the current nominal manufacturing wage. This suggests that the response of the manufacturing wage to changes in nominal GNP is relatively small.¹⁷

Robert Gordon's finding, that the

¹⁵ To see this, think of the standard three-market (labor, money, and commodities) neoclassical macroeconomic model. The level of employment established in the aggregate labor market, in conjunction with the aggregate capital stock, determines real output and the aggregate supply of goods and services. Aggregate demand links the economy-wide price level to real output given equilibria in both the money and commodity markets. Because real output can be thought of as fixed by the labor market, fluctuations in the equilibrium price level (and thus in nominal GNP) reflect disturbances in aggregate demand.

¹⁷ It is important to clarify the differences and similarities between the results in Table 1 and those in this paragraph. Table 1 covers the entire postwar period with annual economy-wide observations. In addition, the elasticity estimates in Table 1 link labor market outcomes to real, not nominal, GNP. Finally, despite the differences in the signs on the respective GNP variables, both sets of results indicate relatively small responsiveness of the various labor market outcomes to changes in GNP.

¹⁵ We must be careful not to overgeneralize results from quasi-aggregate studies of a large industry such as manufacturing, though. There is much interindustry heterogeneity where cyclic movements in real wages and employment are concerned, and a researcher may therefore derive a much different picture from examining manufacturing (or another one-digit industry) compared to the economy as a whole. For elaboration see Thomas Coleman (1984, pp. 8-89).

cyclic volatility of the aggregate labor input in manufacturing greatly exceeds the (small) cyclic volatility of the nominal wage, is inconsistent with the conceptualization of the manufacturing labor market as an auction unless both the labor supply curve and labor demand curve are highly elastic. We know of no evidence that would suggest this is the case. For example, Drazen, Hamermesh, and Obst (1984) report that the wage elasticity of labor demand in U.S. manufacturing is well below unity, even when it is permitted to be procyclical. When coupled with Robert Gordon's finding, this casts serious doubt on the applicability of the economist's standard auction model to the cyclical operation of the aggregate manufacturing labor market.

This conclusion is reinforced by James Brown (1982), who uses annual manufacturing data for 1954-78 to analyze the relative variability of labor market outcomes. Simply put, the more closely and quickly the nominal wage mimics the variation in the value of labor's marginal product over the business cycle, the more one might say a simple neoclassical labor market underlies the data. Brown finds an elasticity of annual earnings per production worker with respect to annual aggregate marginal value product of labor in U.S. manufacturing of only about 0.3. When he respecifies the model to include lagged measures of labor's marginal value product as independent variables, Brown estimates a long-run elasticity of earnings per worker with respect to marginal value product in manufacturing near unity. These parameter estimates imply that it takes seven years for manufacturing earnings to reflect a labor demand disturbance fully. Because business cycles typically run two to three years, this result would seem to provide little support for the spot auction characterization of the manufacturing labor market. A seven-year adjustment process may in-

stead be signaling a long-term contract between workers and firms; such labor market arrangements are the focus of Section IV.

C. Evidence Focusing on the Interaction of Labor Supply and Demand

1. *Real Wages in the Great Depression.* Nominal wages fell 18 percent in manufacturing and 21 percent overall during 1929-33 (Martin Baily 1983); however, the real wage increased by about 8 percent overall and 11 percent in manufacturing during this period as the consumer price index declined by about 29 percent. Moreover, both the real and nominal wages increased during 1933 to 1937, even though the unemployment rate averaged almost 20 percent during this time. In particular, real compensation in manufacturing climbed approximately 26 percent, while workers overall realized a real compensation increase of about 11 percent. Baily attributes a portion, but not all, of these sharp increases in the real wage to institutional phenomena, such as union growth and the National Industrial Recovery Act. Alternatively, Ben Bernanke (1986) modifies the conventional neoclassical model of the firm to account for rising real wages during the Great Depression.

As noted earlier, firms can vary not only the number of workers and machines they employ but also the hours per period that these workers and machines work. In addition, as Bernanke points out, the labor supply to the manufacturing sector is conditional on the nominal wages in the nonmanufacturing sector and the value of individuals' leisure time. Profit maximization in turn implies that firms are likely to react to depressed product demand with both employee layoffs and work sharing. The decline in the demand for weekly hours will therefore have an ambiguous effect, *ex ante*, on the average real weekly wage.

The average real wage could actually rise as average weekly hours fall. Intuitively, if workers have a reservation level of earnings then firms are deterred from cutting earnings in exact proportion to the cut in hours of work. In this way, an increase in the average hourly wage is necessary to cushion the hours reduction, lest workers quit because earnings fall below some reservation level.

Bernanke estimates monthly labor supply and labor demand equations for eight different manufacturing industries during January 1923 to December 1939. As expected, the estimated effect of cyclic changes in output on both equilibrium employment and hours of work is positive and statistically significant. He also reports an elasticity of monthly earnings with respect to monthly hours of less than one. This implies the (observed) countercyclical real monthly wages noted above.

To conclude, while Bernanke offers an explanation for countercyclical real wages during the Depression that complements Bailey's institutional explanations, his model assigns employers a degree of control over hours worked that they may not have. Moreover, such employer power seems to us to be more indicative of a long-term contract whereby workers give up short-term control of their work hours in exchange for earnings that are somewhat cushioned from business cycle shocks.

2. Layoffs and Quits in the Great Depression. The magnitude and composition of unemployment during 1929 to 1945 may shed some additional light on the applicability of the neoclassical model of the labor market. In particular, are the high unemployment levels largely the result of layoffs accompanied by an increase in worker quits, as we would expect in an auction market for labor? The answer to this question, as we will see in the next paragraph, is no.

The layoff rate in manufacturing was

very high during 1930–32, averaging about 4 per 100 workers per month, and the monthly layoff rate was persistently high throughout the 1930s, averaging just over 3 percent during 1933–37 and 2.7 percent during 1938–41. On the other hand, the monthly quit rate, which averaged 1.3 percent during 1930–32, fell slightly to 1.2 percent during 1933–37 and declined more noticeably, to 0.96 percent, during 1938–40. (See *Historical Statistics of the United States*, p. 181.) The inverse relation between layoffs and quits is highlighted by the month-to-month changes occurring in these series during 1929 (W. S. Woytinsky 1942). In particular, employment declined dramatically during August, and the first signs of a downturn can be traced to the substantial decline in the rate of hiring that also occurred during August. In September the layoff rate began to rise and the quit rate fell. By December the layoff rate was almost three times that of its January to July average while the quit rate was approximately one-half of its average for the first seven months of 1929. According to Baily (1983, p. 31), “. . . workers realized very quickly that alternative job opportunities had deteriorated.”

3. Real Wages and Employment in the Postwar Period. A number of studies examine the cyclicity of the average economy-wide real wage in the postwar period with conflicting results. Ronald Bodkin (1969), Salih Neftci (1978), and Alan Stockman (1983) find a procyclical aggregate real wage in the United States; Thomas Sargent (1978) concludes that the real wage is countercyclical; and Patrick Geary and John Kennan (1982) and Thomas Coleman (1984) find an absence of any cyclicity. Along these lines, Coleman extensively analyzes postwar aggregate data noting that the conclusion to be drawn concerning the cyclicity of the aggregate real wage depends cru-

cially on the sample period (also see George Kahn 1984). After dismissing Sargent's countercyclical result because of a lack of robustness, Coleman concludes that the aggregate real wage was acyclical during the postwar period. An exception to this is the decade of the 1970s, when it was procyclical as energy price shocks led to a recession, rising prices, and a falling real wage. Thus, researchers who find a procyclical real wage tend to be examining periods dominated by the 1970s.

More recent research on real wages over the business cycle uses individual data to examine whether the conclusions drawn from aggregate data are perhaps altered when the researcher considers that the business cycle can affect sample composition. Let us elaborate. Cyclic fluctuations in the aggregate real wage are dampened if recessions cause relatively low-wage workers to lose employment while macroeconomic expansions lead them to gain employment. On the other hand, this effect can be more than offset by relatively high-wage workers moving into relatively low-wage jobs during recessions and by relatively low-wage workers moving into relatively high-wage jobs during macroeconomic expansions (James Heckman and Guilherme Sedlacek 1985). In this way, cyclic movements in the aggregate real wage can actually be amplified by employment composition effects. These issues are addressed in Stockman (1983), Mark Bils (1985), Coleman (1984), and Michael Keane, Robert Moffitt, and David Runkle (1986). The basic conclusion emerging is that the results from the aggregate data summarized in the last paragraph remain intact; sample composition effects are empirically unimportant for the issue. The real wage is acyclical in the postwar period, except for the 1970s when it is procyclical for the reasons mentioned earlier in this section.

Martin Weitzman (1984, 1985) addresses the real wage rigidity we have been discussing with an eye to a policy recommendation. In particular, he suggests an alternative compensation scheme characterized by a greater degree of aggregate real wage flexibility (than we currently have) to mitigate the use of layoffs by employers during an economic slowdown. What Weitzman recommends is a pay system more like that of many workers in Japan who, in addition to their regular wage, receive a biannual bonus that is tied to the firm's profits. If U.S. workers would somehow accept such an arrangement to a greater degree than they now do, then wages would be more flexible downward during a recession in turn mitigating the decline in employment sought by profit-maximizing firms. By getting wage flexibility "through the back door," the share system would exhibit greater macroeconomic stability.

Weitzman likens the problem of recession-induced layoffs to that of pollution externalities because individual agents do not have an economic incentive to consider the economy-wide implications of the pay scheme they adopt; however, he largely ignores either the possibility of self-employment or the fact that under a wage system the youngest, most mobile, workers are often the ones primarily exposed to cyclical unemployment as layoffs tend to be based on seniority or work experience. Workers concerned with stabilizing their real earning power in the latter part of their working lives will prefer rigid real wages and a comparatively small risk of a job loss due to a layoff (with income supplemented by unemployment compensation) to wages that regularly fluctuate over the business cycle, which would be the case under a share system of compensation. In light of such life-cycle considerations and risk factors, which Weitzman generally ig-

nones in evaluating the merits of a share system versus a (rigid) wage system, is social welfare clearly greater if we convert to a compensation arrangement whereby all workers accept greater lifetime income variability in order to stabilize the employment of a relatively few newer workers?¹⁸ We contend that the answer to this question is *no*. While a rigid real wage may have the undesirable property of magnifying the use of layoffs during an economic downturn, economists should hesitate to label this a sub-optimal situation and remember that the wage system has been chosen by most firms and workers in the United States.

More to the main point of this review, however, is that an acyclic aggregate real wage means that for a theoretical model of the aggregate labor market to be taken seriously it must imply at least approximate independence between the aggregate real wage and employment—a procyclical variable. This is really not very restrictive because in an auction-market setting with both labor supply and demand schedules subject to random disturbances, real wages and aggregate employment may easily be uncorrelated. As Kennan (1983) and Seater (1985) emphasize, we need to know more about the determinants of cyclical shifts in aggregate labor supply in order to judge the empirical performance of an equilibrium model properly. Along these lines, Kennan (1983) develops a set of equilibrium labor market models characterized by a common labor demand specification but containing alternative labor supply function specifications. His research goal is to determine which model, if any, produces time-series hypotheses concerning the aggregate real wage and employment

that are consistent with postwar U.S. data for manufacturing.

In each of Kennan's models labor demand follows a partial adjustment scheme coupled with one of three different labor supply structures: (i) current labor supply depends on the quantity supplied in the previous period and on a geometric average of expected future real wages, (ii) current labor supply depends on the current real wage and on the expected permanent real wage, or (iii) current labor supply depends on a contractual arrangement between workers and firms such that during a worker's tenure wages are smoothed over business cycles.

Kennan estimates the three models outlined above with monthly data on total employee hours worked and real wages for production workers in U.S. manufacturing during 1948 to 1971. His most interesting empirical result is that fluctuations in employee hours do not appear to cause (lead) real wage changes, while real wage disturbances appear to cause (lead) fluctuations in total employee hours. In other words, real wages and employee hours do not appear to be jointly determined for manufacturing production workers. Instead, movements in employee hours in manufacturing appear to be induced by prior changes in real wages. Although his parameter estimates are sensitive to the sample period (and occasionally are implausible in magnitude), Kennan's primary empirical result is that the comovement of total employee hours and the real wage in manufacturing is sluggish and that the model including both long-term contracting and wage smoothing (labor supply specification (iii) above) is the preferred one.

To conclude, the fact that the various behavioral implications of the conventional neoclassical labor market model so frequently conflict with the economy-

¹⁸ In Section V we discuss some recent attempts to build a labor market model incorporating the distinction between new and relatively experienced workers.

wide or aggregate manufacturing data for the United States casts serious doubt on the empirical acceptability of that conceptual framework. Attempts described in this section to reformulate the neoclassical labor market model are refreshing and could be viewed as implying that a well-specified auction model of the aggregate labor market is closer to the "cradle" than to the "grave."

III. Disequilibrium Analysis

In Figure 6, the straight line ABD' is the standard labor demand schedule, which has also been called the notional demand for labor. Now suppose that the economy has just entered a recession, so that the real wage must fall to $w(0)$ in order to restore full-employment equilibrium, which is where notional demand equals the notional (standard) supply of labor schedule, S . The essence of so-called labor market rationing is that in a recession firms may determine that they are able to sell no more than a given level of output, call it $Q(1)$ (Robert Clower 1965; Robert Barro and Herschel Grossman 1971; Edmond Malinvaud 1977; Drazen 1980). As a result, only employment level $N(1)$ can be sustained. In terms of Figure 6, the effective demand for labor is only $ABN(1)$ so that at (the assumed to be rigid) wage $w(0)$ employment is only $N(1)$. One result of this is cyclical unemployment equal to $N(0) - N(1)$.

Models of rationed work opportunities are an attempt to release empirical labor market analysis from the "strait jacket" of an auction, primarily because the garment does not seem to fit the "patient." Labor market rationing may exist because prices (and presumably wages) are difficult to set correctly so that firms make quantity (output and employment) adjustments rather than price (product price and wage) adjustments. A model

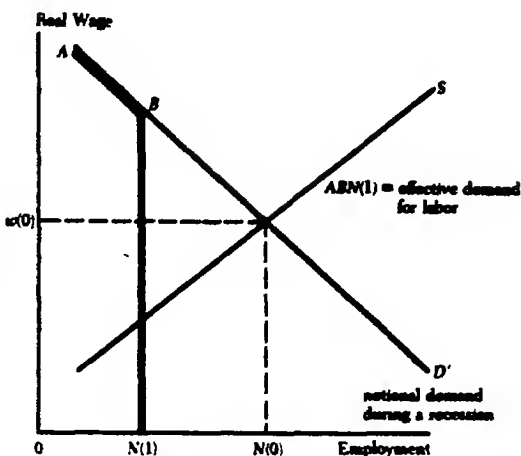


Figure 6. Rationed Work Opportunities and Cyclical Unemployment

of the labor market where work opportunities may be rationed can be consistent with many of the empirical phenomena observed during U.S. business cycles, including countercyclical layoffs and procyclical employment movements paired with real wages that are relatively insensitive to aggregate fluctuations. It also permits the existence of large-scale cyclical unemployment. We now turn our attention to the empirical research in this area.

A. Evidence Focusing on the Role of Labor Supply

When work opportunities are rationed unemployment is part of desired labor supply—workers would like to be employed at the going wage rate but their offers are not accepted by firms. As a result, many empirical studies of rationing as an explanation for cyclical unemployment have focused on testing the hypothesis that unemployment is part of desired employment. It is also possible to confront the rationing issue by making use of survey information on workers who report employment restrictions directly to infer the importance of these perceived restrictions. We now

discuss each of these approaches to studying labor supply constraints in turn.

1. *Unemployment as Part of Desired Labor Supply.* Ashenfelter (1980) treats unemployment as a possible exogenous constraint on labor supply in a one-period static model of aggregate consumption and work behavior. He assumes that desired hours of work are the sum of observed work and some unknown fraction, a , of time unemployed during the decision period. This is described by equations (1) and (2), below.

$$N(t)^* = N(t) + aU(t), \quad (1)$$

where $N(t)^*$ \equiv desired hours of work,

$N(t)$ \equiv actual hours of work,

$U(t)$ \equiv hours of unemployment,
and

a \equiv the proportion of time spent unemployed that the individual desires to work in the labor market.

Rearranging (1) and adding a random disturbance term, $e(t)$, yields

$$N(t) = N(t)^* - aU(t) + e(t). \quad (2)$$

In Ashenfelter's equation (2) the individual's unemployment spell, $U(t)$, is exogenous. This means that hours of unemployment in period t become an independent variable in the labor supply equation explaining the individual's current observed hours of work, $N(t)$. Analogously, the aggregate unemployment rate becomes an independent variable in an aggregate labor supply function.

With the appropriate caveat that Ashenfelter's estimates show sensitivity to estimation technique and the assumed properties of $e(t)$, we note his results that only during the Great Depression does an unemployment constraint seem to be affecting aggregate hours of work. In particular, Ashenfelter estimates the parameters of both a constrained and unconstrained aggregate labor supply-con-

sumption system. The parameters of the two models differ essentially only during the Great Depression. In other periods Ashenfelter concludes that the auction-market framework is preferred. This is based on the Law of Parsimony, whereby when two theories perform equally well empirically, the simpler one is preferred.

It is difficult to accept the maintained hypothesis that unemployment is a surprise to the worker, though. Ashenfelter and John Ham (1979) weaken this background assumption somewhat by considering the possibility that an individual may foresee future unintended unemployment. This foresight is in turn reflected in the parameters of the labor supply equation, including during periods when the (exogenous) unemployment constraint is not actually in effect. The basic theoretical implication of such a situation is that labor supply constraints will cause a redistribution of work to unconstrained periods. As before, the empirical "twist" in this research is the use of unemployment as an independent variable in a labor supply equation. To be more specific, Ashenfelter and Ham entertain two cases: one specification of the labor supply function in which the unemployment constraint is anticipated and one in which it is unanticipated. Specification tests with micro data for prime-aged males suggest that periods of unemployment go unforeseen and that hours of unemployment is an endogenous variable so an econometric framework recognizing this is probably required.

The empirical literature that attempts to incorporate observed unemployment into an estimated labor supply function and to use the resulting parameters to infer the (in)voluntary nature of that unemployment suffers from a number of conceptual and operational defects. If the individual takes an active role in determining his or her unemployment experience, then the duration of unemploy-

ment is part of the optimal allocation of time (Heckman, Killingsworth, and MaCurdy 1981; Pencavel 1986). The econometric model should then take this possible endogeneity into account. Moreover, the substitution hypothesis implies not only that unemployment experience is endogenous but also that it is embedded in a life-cycle context.¹⁹ In the next section we consider research that confronts the rationing issue more directly by using survey information on workers who report themselves as restricted in their labor market choices. In some cases, the empirical work that takes this tack also tries to confront the research problems raised in this paragraph.

2. *Using Survey Data on Labor Market Constraints.* Ham's (1977) econometric analysis of individual labor supply incorporates sample information on men who report they are working more or fewer hours than they would like to work. The issue can be clarified by looking at the three points in Figure 7, which illustrates the three possible categories—overemployment, underemployment, and equilibrium—into which a man may report himself.²⁰ Of course, any self-reported interpretation of an economic situation must be viewed with caution. With this in mind we note that Ham's primary research goal is to compare two sets of labor supply parameter estimates—(i) those emerging when the data are preclassified into the three groups described in Figure 7 and (ii) those based on the usual *ex ante* assumption that all workers are at an equilibrium tangency position described by point A in Figure 7. Ham finds that the two sets

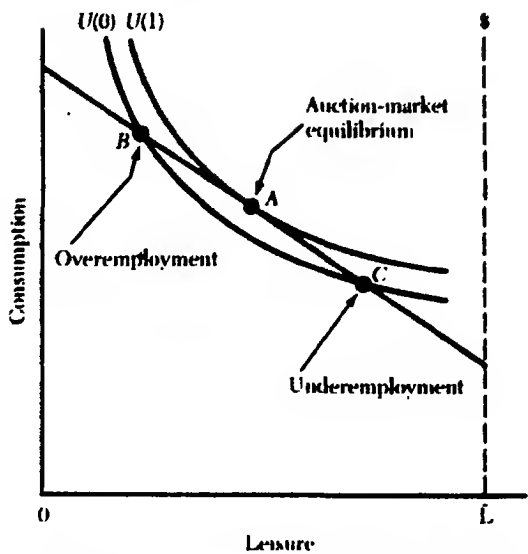


Figure 7. Overemployment, Underemployment, and Auction-Market Equilibrium

of parameter estimates imply similar responses of hours of work to changes in wages and unearned income. Such a conclusion also emerges from Ham (1982).

In closing, we noted earlier that a number of economists have strongly criticized the research on rationing because of the assumption of exogenous unemployment. The essence of the issue is that if hours of unemployment, $U(t)$, are determined by the individual jointly with his hours of work, $N(t)$, then ordinary least-squares estimates of a in Equation 2 are inappropriate and a simultaneous equation procedure is required to account for the endogeneity of $U(t)$. The application of such a simultaneous equation procedure requires instrumental variables that help to determine $U(t)$ but that are unrelated to the individual's hours of work, $N(t)$. (See Ham 1983, 1986 for elaboration.) In our judgment, this procedure cannot be realistically implemented because everything that affects desired labor supply should also affect the individual's unemployment experience, and vice-versa. Simply put, it would be an

¹⁹ For elaboration see Thomas Knesner and Arthur Goldsmith (1985, pp. 215-21).

²⁰ Calculations we have made with Ham's data set, the University of Michigan's Panel Study of Income Dynamics, reveal that 29 percent of the men experienced at least one year with some overemployment and 67 percent experienced at least one year with some underemployment.

odd labor market indeed where an exogenous variable that affects unemployment, through say layoffs, does not affect hours worked by the employed. (For more discussion see Pencavel 1986.)

This completes our discussion of empirical research that attempts to test for constraints on the supply of labor. We now turn our attention to whether econometric research that includes a role for labor demand in conjunction with labor supply improves our understanding of this gap.

B. Evidence Focusing on the Role of Labor Supply and Demand Together

Many older empirical studies of labor market disequilibrium focus on differences between actual and desired input quantities (Nadiri and Rosen 1969). In these models employers suffer costs from being out of equilibrium, and adjustment toward an optimum requires additional costs. As a result, one expects partial adjustment by a firm to its employment equilibrium. To test this hypothesis, researchers then specify a model of partial adjustment with a coefficient that measures the fraction of any disequilibrium eliminated during a given period of time. This estimated adjustment coefficient allows inferences regarding whether disequilibrium exists. Specifically, if the estimated adjustment coefficient is unity, no gap between actual and optimal input use ever obtains.

Other research on disequilibrium presents a different type of disequilibrium model (Barro and Grossman 1971; Ray Fair and Dwight Jaffee 1972). Here markets are characterized by equilibrium, excess supply, or excess demand. In equilibrium, the quantity bought and sold is determined by the intersection of the supply and demand curves. Disequilibrium theory suggests that the quantity observed is the minimum of the quantity supplied and quantity demanded at the current wage. As a result,

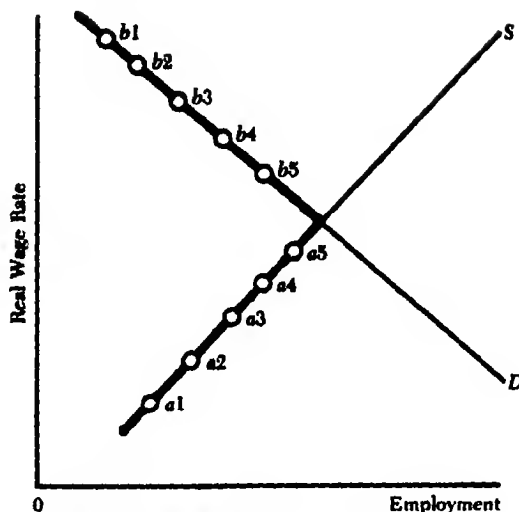


Figure 8. A Labor Market with Disequilibrium

observed employment is: (i) on the supply function if the quantity of labor demanded exceeds the quantity supplied or (ii) on the demand function if the quantity of labor demanded falls short of the quantity supplied. This situation is depicted in Figure 8 by the heavily shaded segments of *S* and *D*, respectively.

1. *A Primer on Disequilibrium Models.* One way to shed light on the issue of whether a labor market clears is first to estimate separately an equilibrium model and a disequilibrium model and then determine which of the two is a better empirical representation of observed labor market outcomes. Of course, there is some disagreement over the best way to estimate the disequilibrium model (G. S. Maddala 1986).

An alternative procedure is to use qualitative information on wage changes to infer whether data sort into a period of excess demand or excess supply. Specifically, when the real wage falls, this can be interpreted as a period of excess supply of labor; when the real wage rises, this can be interpreted as a situation of excess demand. (Observations for which there is no change in the wage may be allocated to either category.) Labor supply and demand functions are then esti

mated separately using the observations judged as lying on that particular schedule. For example, those observations on wages and employment corresponding to excess labor demand (a_1 , a_2 , a_3 , a_4 , and a_5 in Figure 8) can be used to estimate the labor supply function, while those observations corresponding to excess labor supply (b_1 , b_2 , b_3 , b_4 , and b_5 in Figure 8) can be used to estimate the labor demand function. This technique is known as a switching regression model because it characterizes labor market data as switching between periods when observations map out the labor demand function and periods when they trace out the labor supply function. (See Maddala 1986 for a more technical discussion.)

In any case, whether a more standard (say, partial adjustment) approach or the switching technique is adopted to estimate the disequilibrium model, the key issue remaining is how to judge the empirical performance of a disequilibrium model versus one that characterizes all observations on wages and employment as lying at the intersection of supply and demand.²¹ The literature contains three ways to make such a judgment. First, one can construct a test statistic for the null hypothesis that the aggregate labor market is always in equilibrium against the alternative that it is not. Second, one can compare the signs and magnitudes of the estimated parameters from the two alternative models with each other and

with their expected values. Third, one can use the estimated coefficients from the two respective models to forecast unemployment and then compare these forecasts with actual unemployment data.

Of course, underlying any attempt to judge the relative empirical performance of an equilibrium versus disequilibrium model is the specification of the structural equations. By design, the structural equations of the two respective models tend to be quite similar. The typical specification of the labor market equilibrium model entails a labor demand equation (represented by an expression for the marginal productivity of labor), a labor supply equation (expressed as a function of the real wage rate and unearned income), and an equation describing the quantity of labor firms utilize (which is the standard reduced-form equation for the equilibrium quantity of labor in a supply-demand system). Four equations typically make up the labor market disequilibrium model. The labor supply and demand expressions are identical to those of their equilibrium counterpart; the other two equations describe the quantity of labor firms use and the real wage adjustment process. More specifically, the quantity of labor services employed is usually the minimum of labor supply and demand, and real wage movements usually depend on excess labor demand and noncompetitive factors. More complex disequilibrium models than this do exist, though, and a few are worthy of further mention.

Glenn Rudebusch (1986) incorporates prior information on the extent of labor market excess demand, including help-wanted advertising, and allows both labor supply and demand to follow partial adjustment schemes. Even more complete is the model development in Harvey Rosen and Richard Quandt (1985) which, among other things, allows prices to be endogenous, accounts for the ef-

²¹ A related issue is that the annual unemployment rate is always positive. This could leave the impression that excess supply of labor is chronic. If this were the case, then all wage and employment observations lie on the labor demand curve. Therefore, using a sophisticated estimation technique, such as a switching regression model, would be unnecessary because only labor demand need be estimated. Richard Quandt and Harvey Rosen (1985a), using annual observations on the U.S. economy for 1929-79, reject the hypothesis of chronic excess supply in the aggregate labor market. This result suggests that a switching regression is the more appropriate way to estimate the parameters of an aggregate labor market model.

fects of past wage and price changes on the current nominal wage, utilizes unemployment data to help identify an excess demand for labor situation, and lets some of the error terms be serially correlated. Finally, Vassilis Hajivassiliou (1986) broadens the typical analysis to address the issue of multimarket (dis)equilibrium. His model permits some sectors to have excess demand for labor while others have excess supply. Movements in aggregate employment are in turn related to the proportion of markets in excess demand versus those in excess supply.

Having gained a little general theoretical background into disequilibrium models of the aggregate labor market we now examine the evidence concerning their empirical performance.

2. *The Relative Empirical Performance of Disequilibrium Models.* Estimated parameters of the disequilibrium models just described, regardless of the specification or manner in which they are estimated,²² are usually consistent with a priori expectations. More specifically, because Rosen and Quandt (1978) and Quandt (1983) estimate both equilibrium and disequilibrium models, they are able to construct a likelihood-ratio test of the equilibrium hypothesis. Both studies reject the null hypothesis that the labor market is always in equilibrium. Moreover, Romer's traditional disequilibrium specification²³ as well as the forward-looking disequilibrium model adopted by

Jonathan Eaton and Quandt (1981)²⁴ generate plausible predicted values for the unemployment rate over the sample period. For example, the simple correlation between the unemployment rate predicted by Romer's model and the annual unemployment rate exceeds 0.9 for the period 1930-73. Similarly, the more elaborate disequilibrium models of Hajivassiliou (1986), Rosen and Quandt (1985), and Rudebusch (1986) generate very accurate predictions of labor market outcomes. For instance, when Rosen and Quandt (1985) regress the actual value on the predicted value for each of the endogenous variables in their model, the resulting R^2 's fall in the range 0.911 to 0.997.

The empirical results in the studies discussed in this section show that a disequilibrium model can track aggregate labor market outcomes quite well. This conclusion cuts across a variety of model specifications, estimation techniques, and evaluation criteria. Most importantly, it appears that an econometric representation of the aggregate labor market that allows for frequent disequilibrium is clearly preferred to an equilibrium representation.²⁵ Suppose that we accept a finding of frequent disequilibrium in the aggregate labor market. A logical question to ask next is what might be the cause of it? Some economists say it is transaction costs that lead to sluggish real wage adjustments when labor supply or demand is disturbed.

3. *Transaction Costs and Wage Changes.* Proponents of the transaction costs argument emphasize that firms' de-

²² In general, the data used are economy-wide annual averages beginning in 1929. Exceptions are Hajivassiliou (1986) and Rudebusch (1986), who use aggregate postwar quarterly data.

²³ Romer (1981) revises Rosen and Quandt's (1978) disequilibrium model by discarding their assumption that nonlabor income is exogenous in the labor supply equation and instead drops nonlabor income from the model. The logic behind this is that, while the appropriate model incorporates saving decisions, data limitations prevent treating nonlabor income as endogenous.

²⁴ Eaton and Quandt (1981) also estimate the Rosen and Quandt (1978) disequilibrium model after re-specifying the labor supply equation. They add the wrinkle that aggregate labor supply may be influenced (reduced) by the possibility that the labor market will have future excess supply.

²⁵ Readers desiring additional discussion of this conclusion with a cross-national focus should consult Malinvaud (1984).

cisions to change the nominal wage are not made lightly. As a result, real wages may not adjust quickly enough to prevent cyclical unemployment. Moreover, it takes time for workers to observe new employment opportunities or the lack of them and to adjust their labor supply accordingly. For example, workers need time to alter their labor market expectations and to drop out of the labor force or to accept employment that was previously refused (Milton Friedman 1968). It also takes time for firms to assure themselves that a particular economic event merits a wage response. Employers associate substantial costs with frequent wage adjustments (Albert Rees 1970). Most of the direct and indirect costs associated with administering wage changes are evident; however, certain indirect costs are not readily apparent and are difficult to quantify. Nonetheless they must be accounted for to understand why employers often resist wage changes. For instance, wage changes can raise troublesome questions of internal equity that may adversely affect a firm's labor productivity.

The transaction costs explanation of cyclical real wage rigidity and unemployment is certainly plausible. It is hardly controversial to argue that changes in intended labor supply or demand may take a number of months, possibly even a year, to be implemented because of adjustment costs; however, a major obstacle to testing the hypothesis that real wages are rigid as a result of slow nominal wage adjustments on the part of firms or slow labor supply adjustments on the part of workers is that several key variables are latent, including transaction costs themselves. In the remainder of this section we describe some attempts to implement empirically a transaction cost model of the labor market.

The papers by Pencavel (1982) and Louis Christofides (1985) represent, to

our knowledge, the first careful empirical attempts to consider transaction costs when investigating labor market outcomes. Because of the costs associated with altering wages, such transaction costs may influence not only the frequency of wage changes but also the magnitude of wage settlements (Rees 1970). Pencavel considers the possibility that, because of transaction costs, a variable may affect the likelihood of a wage change without necessarily affecting the magnitude of the change. He tests this hypothesis with quarterly data on the British coal industry for 1948-75 and finds, for example, that an increase in the rate of change of consumer prices significantly enhances the likelihood of a nominal wage change in the British coal industry; it does not influence the extent of that wage change, though.

Transaction costs are largely a latent variable in Pencavel's empirical model. Although they are accorded a fundamental theoretical role by Christofides, transactions costs are still not totally explicit in his empirical examination of incomes policies and union wage contract duration in Canada. Christofides' focus is on the maintained hypothesis that contract duration and transaction costs are positively related. He uses the duration of past contracts as a surrogate for current transaction costs and therefore argues that relatively long previous contracts should lead to relatively long current contracts. Christofides tests this hypothesis with quarterly data on Canadian labor union contracts during 1966-81. As expected, coefficients on past contract length are positive and indicate a statistically significant effect on the length of the current contract agreement.

The research described in the last two paragraphs illustrates the difficulties associated with trying to implement a model of the aggregate labor market affording transaction costs a major role. A

similar difficulty has been noted with attempts to introduce the costs of transacting into the analysis of households' behavior. Robert Pollak (1985, p. 606) writes, "A principal defect of the transaction cost approach is its failure to provide a structure for rigorous econometric investigations. Developing such a framework requires incorporating the insights of the transaction costs approach into formal models and specifying such models in sufficient detail to permit their estimation." In the case of labor market research the problem has not been the detail of the theoretical models, but rather the almost total lack of any credible measure of the transaction costs themselves. It will probably be a long time before the data become available (if ever) to implement a detailed empirical model of the aggregate labor market where the observed cyclical behavior of participants is explicitly linked to transaction costs.

4. *Where Does the Research on Disequilibrium Lead Us?* The research discussed in this section suggests frequent labor market disequilibrium resulting in involuntary cyclical unemployment. While rigid real wages may be responsible, efforts to dig more deeply into the reasons for this rigidity are in their empirical infancy. Perhaps as a sign of their frustration, researchers frequently just assume that wages are rigid without stating a reason. The main objective of research on the labor market should be to establish a model where unemployment and rigid wages are jointly endogenous, though (Drazen 1980). Along these lines, what appears to be employment rationing may be the result of calculated decisions by employers, in conjunction with their work force, rather than some exogenously imposed phenomenon. If workers consent to a labor market relationship where their employment may frequently differ from what they would most like to supply at the current real wage, then

an incentive for long-term contracting between workers and firms exists. Thus, the evidence pointing us away from an auction market for labor seems to be pointing us toward the possibility of long-term labor market contracting.

IV. *Long-Term Contracting*

The twentieth century has witnessed a radical transformation of the American work environment (Donald Parsons 1986). The average size of the workplace increased markedly while the portion of the work force self-employed declined from almost 50 percent in 1900 to about 8 percent today. Parsons argues that, "As the size of the workplace grew, the need for explicit and implicit employment contracts to define and regulate the employment relationship grew correspondingly." So, while there seems reason to believe that theoretical models of long-term labor market contracts may shed important light on the cyclical covariation of wages, employment, and unemployment, such models must face the same stringent test we applied to the others discussed earlier. Specifically, can an explicit or implicit contract model imply the observed business cycle variations in wages (un)employment in the United States?

A. *Explicit Contracts: Theory and Evidence*

An explicit labor contract codifies ex ante the relationship between economic conditions and certain characteristics of the employment relationship. Union-management collective bargaining agreements, resulting in explicit labor market contracts, currently cover about one-fifth of the labor force in the United States. One possible explanation for the popularity of explicit, as opposed to implicit, contracts is the lower costs of enforcing such arrangements.

A variety of factors influence the outcome of labor-management negotiations. In particular, the content of the contract may be heavily influenced by (i) wages offered by other employers, (ii) the firm's desire to attract its optimal amount and quality of labor, (iii) workers' desire to protect their earning power from erosion by inflation, and (iv) the political interests of the union's leader and the firm's executives. This list is certainly not complete and is merely meant to motivate our discussion of theoretical models of explicit union contracts and their subsequent economic consequences.

1. *Union Contracts.* If a general model governing the setting of union wage and employment levels can be identified, then the predicted behavior of union wages and employment over the business cycle can be compared to aggregate variations in these outcomes. Such an exercise may reveal the extent to which union contracts (and any nonunion contracts that mimic them) permeate the aggregate labor market.

For the purpose of discussion, suppose that unions are concerned with both the rate of compensation and the level of employment of their members. In seeking to maximize the welfare of the rank and file, the union will be willing to trade off employment against real wages. The preference of a union with respect to these two variables may be represented by the indifference curves labeled $U(1)$ and $U(2)$ in Figure 9, where $U(2)$ corresponds to a higher level of utility than $U(1)$. Employers will also be interested in the levels of employment and workers' compensation. They will be indifferent between wage-employment combinations that leave profits unchanged. Such employer trade-offs may be represented by the isoprofit curves $P(1)$ and $P(2)$ in Figure 9, where profits at $P(2)$ exceed those at $P(1)$. An isoprofit curve is positively sloped at those employment levels

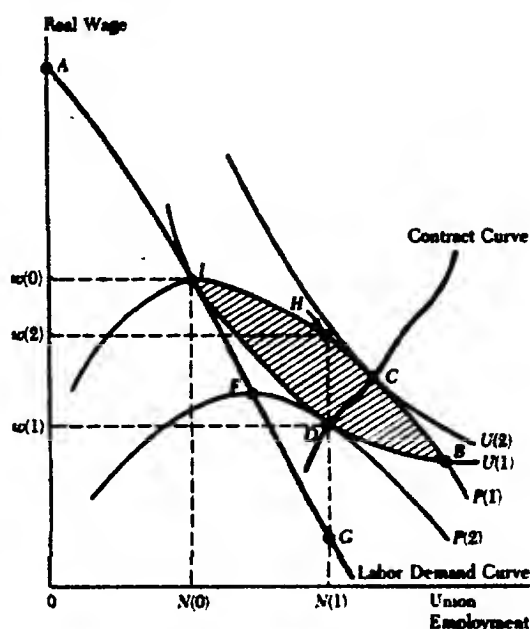


Figure 9. Worker Preferences, Employer Preferences, and Wage-Employment Outcomes in a Unionized Labor Market

where labor's marginal revenue product exceeds its marginal cost and negatively sloped where marginal revenue product is less than labor's marginal cost. Marginal revenue product equals the marginal cost of labor at the peak of each isoprofit curve, therefore. Because the demand for labor is the locus of points for which marginal revenue product and marginal labor cost are equalized, the labor demand schedule (AIFG) is also the locus of the peaks of the isoprofit curves.

An efficient contract is defined as those wage-employment combinations where neither the union nor the employer could be made better off without making the other party worse off. For example, point B is inefficient because moving to point C increases the union's satisfaction, while leaving the employer's profits unchanged. Moving from point B to point D holds the union's level of satisfaction constant and increases employer profits. If, for example, negotiations begin at

point B , then mutual gains occur when the bargaining process leads to a point in the shaded lens-shaped area representing higher levels of both worker satisfaction and employer profits. Each point on the line segment known as the contract curve (DC) consists of a tangency between an employer's isoprofit curve and a union's indifference curve. No further mutual gains from trade are possible once the parties reach an agreement along this locus of efficiency points (the contract curve).

According to John Dunlop (1944), it may prove insightful to view the behavior of a union as simply that of a monopoly seller of labor. Specifically, he suggests that we interpret the union as specifying a compensation level and then allowing the firm to select the level of employment that maximizes its profits. As a result, if the union in Figure 9 chooses real wage $w(0)$, say, the profit-maximizing firm will choose employment level $N(0)$. Note that this particular outcome is not on the contract curve, which means that if the union acts as Dunlop's monopoly seller of labor, then the resulting wage-employment outcome is likely to be inefficient.

On the other hand, suppose that union and management negotiators maximize joint welfare, regardless of the wage established during collective bargaining. This requires that (w, N) be chosen so that the rate at which the employer is willing to trade wages off against employment is identical to the rate at which the union is willing to trade them off (we are at a tangency of a P curve and a U curve in Figure 9). The two parties then operate on the contract curve, and the negotiated contract is efficient. In this case, if collective bargaining yields $w(1)$ then employment would be $N(1)$, and the firm's profits would be less and its wage bill greater than the outcomes implied by the monopoly model at wage $w(1)$.

The above two stylizations of union-management behavior tend to generate different conclusions regarding the efficiency properties of union contracts. It is important to recognize, though, that other outcomes are surely possible because of the complex nature of contract negotiation. Deception is a common characteristic of the collective bargaining process because the parties have incentives not to reveal their true intentions. As a result, one party's perception of the other's payoff function is probably distorted, and there is no guarantee that the Pareto frontier will be reached. Thus, there seems to be no compelling reason either to presume *ex ante* that union-management contracts are efficient or to presume that they are inefficient.²⁶ More importantly, whether efficient and inefficient union contracts affect the variability of wages and employment over the business cycle differently is still an unanswered question, *a priori*. We also have little to say generally about the expected impact of explicit union contracts on the cyclicity of wages and employment. Hence, it is not very clear (as yet) how theoretical microeconomic research on union-management bargaining behavior can help us understand the business cycle dynamics of the aggregate labor market.

2. Overlapping Contracts: Wages and Employment. John Taylor (1980) models the aggregate labor market as a collection of firms with nominal wage contracts having staggered starting dates. A firm reaches a new wage agreement only after it considers all other firms' wages, including those to be set in the future. In this case, each firm's contract wage is contingent upon other firms' wage settlements.

²⁶ Brown and Ashenfelter (1986) and MaCurdy and Pencavel (1986) seek to determine which of these two characteristics of explicit union contracts (efficiency or inefficiency) describe the U.S. newspaper industry.

A contract here specifies a fixed nominal wage for the duration of the agreement, and employment depends on fluctuations in the aggregate demand for product and labor. Although Taylor suggests that these labor contracts may be either implicit or explicit, it seems they are basically explicit because he assumes that an employer may secure, at no direct cost and without forecasting, accurate information on all wage agreements currently in force.²⁷

In Taylor's theoretical model, the nominal wage outcome depends on a distributed lag of past wages incorporating earlier wage decisions and expectations of future wage outcomes. This process passes economic shocks from one contract to another, and the model predicts a persistence of unemployment due to random demand shocks. Specifically, if there is an unanticipated decline in product demand unemployment should rise for several quarters before tapering off. Unfortunately, this model has little to say about the movement of real wages over the business cycle. Still, Taylor's theoretical model is notable because it demonstrates that a macroeconomy with a non-Walrasian labor market—one characterized by overlapping fixed nominal wage contracts—is capable of yielding plausible predictions of the qualitative link between random fluctuations in aggregate production and (un)employment. How well does such a model fare when confronted with aggregate time-series data, though?

Taylor (1979) expresses the overlap-

ping contracts representation of the aggregate economy just described in empirical form. While the details are too complex to elaborate on in much detail here, the econometric model can be summarized as having five equations (real output, price level, money supply, unemployment rate, and nominal wage), each of which contains a series of lagged independent variables and lagged disturbance terms. Maximum likelihood structural parameter estimates from U.S. aggregate quarterly data for 1960:I to 1977:IV are all consistent with Taylor's qualitative *a priori* expectations. Among other things, past price shocks feed back into the wage formation process.

While Taylor's theoretical model (1980) and the results from its empirical counterpart, Taylor (1979), are provocative, Ashenfelter and David Card (1982) argue that Taylor's econometric analysis of his own theoretical model is incomplete. In particular, they point out that Taylor's explicit contract model also yields a number of testable hypotheses regarding the aggregate time-series patterns of money wages, employment, and unemployment. For example, Taylor's theoretical model implies that (i) the aggregate nominal wage is an autoregressive moving average (ARMA) and that (ii) unemployment has a similar stochastic structure.²⁸ We might also note that Taylor's theoretical model seems to yield a third testable hypothesis—that unemployment does not cause (statistically lead) the nominal wage in the aggregate data. Ashenfelter and Card believe that the hypotheses just mentioned, which Taylor (1979, 1980) did not investigate, must be tested to establish the validity

²⁷ It is important to point out that Taylor's model is difficult to relate to the nonunion sector of the labor market. Specifically, why should nonunion workers feel bound to a fixed contract duration when economic conditions change sufficiently? In the case of a business cycle expansion, say, employers will want to raise wages. Will workers prevent them from doing so because the contract has not yet reached its termination date? We think not. Thus, it is far from obvious that contracts are necessarily overlapping in the nonunion labor market.

²⁸ An estimating equation is autoregressive (AR) if lagged values of the dependent variable appear on the right-hand side. The moving average (MA) dimension refers to the possibility of persistent random shocks such that the regression also contains lagged disturbances.

of Taylor's overlapping contracts model of the aggregate U.S. economy.

Ashenfelter and Card first estimate a set of empirical associations in the aggregate quarterly data for the United States during 1956:I to 1980:I. They find that the stochastic structure of the nominal wage process differs noticeably from that of the unemployment rate.²⁹ Thus, Ashenfelter and Card reject both (i) the hypothesis that an autoregressive moving average empirical representation of nominal wages is appropriate and (ii) the hypothesis that unemployment and the nominal wage have the same empirical representation. In this way, they conclude that the time-series data for the aggregate U.S. labor market do not fit Taylor's overlapping contracts model.

To summarize, at any time the aggregate wage is an average of wages across industries, some of which are set by explicit contracts at various stages of their term. While unions may be the primary reason for such contracts, they currently cover only about 20 percent of the civilian labor force. Still, it is possible that their effect is more widespread through so-called spillover effects to the nonunion sector. The empirical research discussed in this section on overlapping contracts is an attempt to incorporate some intersectoral considerations into an analysis of how the aggregate nominal wage evolves and in turn influences aggregate (un)employment. Recent research on incentive contracts also attempts to incorporate some microeconomic details into our models of the aggregate labor market by taking account of the fact that employers, at the time they make wage-employment decisions, may also need to consider worker motivation.

²⁹ Ashenfelter and Card find that the data suggest only a low-order (one or two lags) AR representation for the nominal wage. On the other hand, the data indicate a low-order ARMA stochastic structure for unemployment.

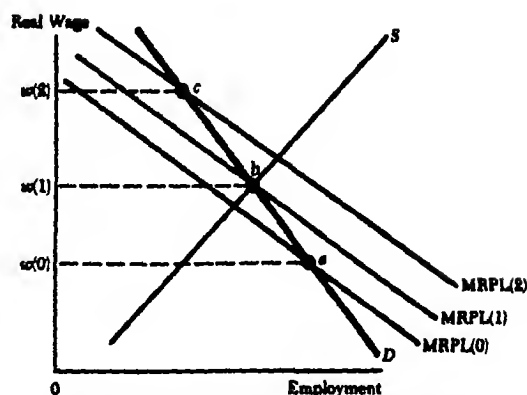


Figure 10. Labor Demand When Marginal Productivity Depends on the Wage

3. Incentive Contracts: Wages and Employment. It is often argued that worker productivity depends on the real wage paid by the firm (Harvey Leibenstein 1957; Hajime Miyazaki 1984; Carl Shapiro and Joseph Stiglitz 1984; Janet Yellen 1984; Stiglitz 1986). This might come about because workers expend more effort or have better morale on the job at higher real wage levels.

The labor market implications of this situation can be seen in Figure 10, where the aggregate marginal revenue product of labor (MRPL) increases with the real wage. In this case, the profit-maximizing amount of labor equates the wage to the wage-dependent marginal revenue product of labor. The aggregate labor demand curve *D*, now connects points *a*, *b*, and *c* and will be less elastic than when labor demand is a single, unchanging MRPL schedule. Does the efficiency wage concept as captured in Figure 10 explain so-called involuntary unemployment? No.

Aggregate labor market equilibrium will still be determined by the scissors of supply and demand in Figure 10 with no involuntary unemployment at their intersection. While the concept of an efficiency wage redefines the labor demand relationship and suggests a reason why wages may differ across firms (effort dif-

ferences among workers), it does not by itself offer a reason for an excess supply of labor. That outcome still requires an argument for why the real wage will not fall to equate the supply and demand for labor. We know of no new or convincing explanations in the efficiency wage literature for this rigidity.³⁰ In short, we must look elsewhere for an explanation of the real wage rigidity and attendant cyclical unemployment that economists seek to understand with models of the aggregate labor market.³¹

B. Implicit Contracts: Theory and Evidence

When a worker's skills are firm-specific and when the costs of acquiring these skills are borne in part by the worker and in part by the employer, the two parties have an incentive to form a long-term association to maximize the returns to this investment. Even if skills are not firm-specific, a long-term contract negotiated once avoids the costs of continually renegotiating a series of short-term contracts. Because these con-

tracts are not explicit formal agreements, but are more in the way of unwritten understandings, they are called implicit contracts.

The form of these long-term contracts will depend partly on the objectives of the worker and the employer. For instance, a simple long-term contract might take the form of paying the worker the value of his or her marginal product in each period. In this case, the worker's real wage fluctuates together with the employer's product demand curve. The basic notion behind the literature on implicit contracts is that the worker and the employer have different attitudes toward these movements in their incomes. In particular, a typical worker's income derives largely (if not entirely) from employment so that, subject to available savings, real wage fluctuations produce corresponding fluctuations in consumption and the standard of living. On the other hand, the employer is the bearer of risk in traditional economic analysis and through wealth diversification may be better able to protect consumption from fluctuations in income stemming from variations in the firm's product demand. In such circumstances, when the employer is better able and more willing to tolerate fluctuations in income than is the worker, there is an opportunity for the two parties to engage in an exchange that benefits both of them. Specifically, the employer could offer a contract that reduces the volatility of the employee's wage in return for a lower average wage. The employee is then paying something (in the form of a lower average wage) to avoid fluctuations in his or her standard of living, while the employer reduces wage costs below the level that would otherwise exist. Indeed, in a limiting case in which the employer cares only about expected profit and not at all about its variation (that is, the employer is risk neutral), the firm's wage

³⁰ For one such attempt see Akerlof (1980), who repackages the old argument that wages are largely determined by tradition and customs and are therefore invariant to changes in supply and demand unless such changes are very large.

³¹ In related work at the microeconomic level, Edward Lazear (1984) theoretically analyzes the impact of various incentive programs designed to induce worker effort on the variability of an individual's earnings over the business cycle. For example, Lazear considers a firm where young workers are paid a wage less than the marginal value of their output, and when older receive a wage that exceeds the marginal value of their output (if still with the firm). The opportunity to capture an economic rent in the later stages of the working life provides an incentive for workers to shirk or quit less frequently. Under the compensation pattern just described, product price changes (a possible measure of cyclic activity) have a smaller effect on younger workers' earnings and a larger effect on older workers' earnings than in an auction setting where wages are always equal to the marginal value of output. Because of this, Lazear concludes there is no clear theoretical link between effort incentive arrangements and cyclic wage variability for workers on average.

costs could be minimized by offering employees a constant real wage (one that does not move with fluctuations in product demand conditions).

A firm with an implicit contract in effect may be thought of as having two departments—one that offers economic insurance to workers and another that produces goods and services to sell (Azariadis and Stiglitz 1983). The latter pays workers Walrasian auction market wages, which may fluctuate substantially with aggregate economic conditions. A worker then takes this wage to the insurance department who supplements it in economically unfavorable states (recessions) and charges a fee in economically favorable states (booms). Thus, the central feature of implicit labor market contracts is that "contract wages embody implicit payments of insurance premiums by workers in favorable states of nature and receipts of indemnities in unfavorable states" (Rosen 1985, p. 1145).³² In this case, workers' nominal take-home pay should exhibit relatively less cyclic variation than if their money wages were established in a spot market for labor services. The possibility of a more cyclically damped real wage follows directly.

Remember that an efficient contract is one that exploits all possibilities to improve the parties' joint welfare. In other words, in terms of Figure 9, the firm and the worker determine wages and employment on the contract curve. But whereas in Section IV.A.1 the two parties settled on a single wage-employment

combination, the notion behind the literature on implicit contracts is that the firm and the worker have the option of specifying a wage schedule and an employment schedule with wages and employment dependent upon each realized state of demand. As we have seen, if the worker is averse to cyclical variations in wages while the employer is indifferent to such variations in his or her own income, the efficient contract will call for a constant real wage. In this case, the *option* of specifying a state-dependent real wage is not taken up.

Because implicit contract models tend to imply dampened wage variability relative to a spot auction market outcome, they therefore also imply relatively greater variability in the firm's total work hours; however, these models have little to say in general concerning the division between changes in hours of work per worker and layoffs when an unfavorable state of nature obtains.³³ In any event, recession-induced reductions in the labor input have been termed either voluntary or involuntary, and this distinction can help us evaluate the applicability of the implicit contract model. To elaborate, if an individual's utility, or more simply income, is unchanged, then a recession-induced hours reduction is termed voluntary underemployment and a recession-induced layoff is termed voluntary unemployment. The most obvious situation is where publicly available unemployment insurance (UI) along with privately provided insurance, termed severance pay, are sufficiently generous so that the underemployed or unemployed individual suffers no utility loss.

In reality, UI is incomplete in the United States in that (i) not all workers

³² An important related point is that the appropriate specification of the aggregate labor market in a macroeconomic model depends on whether the labor market determines the properties of a long-term contract or whether it is the textbook spot market for labor. In the former case, the observed real wage is net of insurance payments (premiums) and both the aggregate supply and demand for labor must be re-specified to take this into consideration. This subtlety is typically ignored in models of the aggregate labor market.

³³ See Miyazaki and Hugh Neary (1983) and Murray Brown and Elmar Wolfstetter (1984) for additional theoretical analysis of the effects of a recession on employment versus hours of work within the context of an implicit labor contract.

are eligible to receive it, (ii) there is a maximum number of weeks (typically 26) that payments are made, and (iii) payments replace only a portion of lost earnings, including fringes such as health insurance.³⁴ Moreover, moral hazard and adverse selection problems substantially limit the availability of privately provided unemployment insurance. Specifically, given unemployment insurance, laid-off workers may reduce the intensity of their job search (moral hazard). Similarly, workers with a greater probability of being laid off are more likely to seek a job with severance pay (adverse selection). These two problems greatly reduce the economic incentives for employers to provide such insurance.³⁵ Not surprisingly, then, severance pay is largely nonexistent in the nonmanufacturing sector and in the most complete case (manufacturing workers in unionized firms) covers only about half the work force (Andrew Oswald 1986).

The previous paragraph suggests that recession-induced worksharing and layoffs are likely to be involuntary in the United States economy in the sense described earlier and that implicit agreements reducing worker income volatility over the business cycle may be accompanied by cyclical variation both in their

standard of living and average wage payments. This means that the actual state of business conditions will be important to workers and firms alike; however, what if firms are better informed of the true state of the business cycle? In this case, there is an opportunity for employers to act deceptively by falsely announcing that a bad state (low product demand) prevails. Workers are aware of this possibility, of course, so that an implicit labor contract is implementable only if it contains a clause specifying penalties that make it uneconomic for the firm to behave deceptively.³⁶ Thus, if workers desire reduced income variability over the business cycle and firms agree to reveal the state of the economy truthfully, then implicit contracts can be struck and employer-employee attachment enhanced relative to a spot market for labor services.

We now examine the aggregate data in the United States for evidence of long-term implicit contracting between workers and firms.³⁷ As we will soon see, such evidence is unfortunately quite sparse.

1. Evidence of Implicit Contracting?

An indirect, although inaccurate, way to infer the existence of implicit contracts is to examine data on worker mobility across employers. We say this because whether the labor market is characterized by a long-term implicit contract or a spot auction, workers should change employers on occasion to take advantage of superior opportunities for promotion and training, even though this means foregoing the benefits of long tenure with a given employer. A desire to enhance

³⁴ Some data from the *Economic Report of the President, 1986* are enlightening. During the heart of the 1982 recession, the average number of workers who were receiving UI payments was only about two-thirds the number of unemployed workers who reported that they were either job losers or job leavers. (Other types of unemployed workers, new entrants or re-entrants, are generally not eligible for UI payments.) In 1984, the most recently available year, there were 96.5 million U.S. workers in jobs covered by government UI programs of all sorts. This compares to a total civilian employment of 105 million. Finally, average weekly unemployment benefits during 1984 were about \$123 or 42 percent of the average pretax weekly wage (not including fringe benefits) of private nonagricultural production or nonsupervisory workers.

³⁵ For more discussion of the moral hazard and adverse selection problems in insurance see Jack Hirshleifer and John Riley (1970).

³⁶ A detailed discussion of this constraint and how it is incorporated into the theoretical equilibrium contract is beyond the scope of this paper. The curious reader should consult Sherwin Rosen (1985) for mathematical details. A handy graphical analysis is contained in Azariadis and Stiglitz (1983).

³⁷ Readers interested in more details of implicit contract models should consult the excellent surveys by Sherwin Rosen (1985) and Parsons (1986).

job security, and hence income, also motivates some workers to switch employers. If a long-term contract that reduces income variability is operational, though, the incentive to switch employers because of security considerations is substantially reduced. Thus, data on average job tenure allow weak inferences at best concerning the existence of long-term implicit contracting in the labor market. Data on employment duration, if correct, may be suggestive of firm-specific skills, not necessarily of implicit contracts.

Hall (1982) reminds us that median and average job tenure are misleading statistics because the labor force contains a substantial number of workers who are too young to have lifetime (long) job tenure, even if lifetime jobs were a general rule. Similarly, many older workers have once retired and then returned to work so their current jobs are of fairly short duration. Hall's data on job tenure, defined as service with an employer with no more than temporary layoff spells (30 days), suggest that the typical worker currently holds a job that has lasted eight years.³⁸ The OECD (1984) collates previously unpublished data from a household survey by the Bureau of Labor Statistics concerning tenure of all employed persons as of January 1983. Average job tenure in these data is 7.2 years, and approximately 27 percent of workers have more than 10 years of job tenure. Depending on race and sex, George Akerlof and Brian Main (1981) estimate average completed tenure of 10 to 18 years for jobs in progress during January 1968. According to the OECD report, average completed job tenure in the United States was approximately 15 years (for jobs held during 1978). Moreover, about 28 per-

cent of these workers were expected to have 20 or more years of tenure when they completed their jobs.

Micro data tell a similar story of long attachment for many workers. Parsons (1986) examines a ten-year panel from the National Longitudinal Survey of Mature Men. Among males who were 45–51 years old in 1966, 44 percent of the surviving whites and 39 percent of the surviving blacks were with the same firm 10 years later. In a similar vein, Masanori Hashimoto and John Raisian (1985) estimate the probabilities that U.S. males in a given age-tenure category during 1962 would be with the same firm in 1977. The job separation rates for workers initially possessing at least five years of tenure suggest lengthy employer-employee ties. The percentages of these workers expected to be with the same employer 15 years later were (i) 30 percent for workers 20–24 years old, (ii) 47 percent for workers 25–34, (iii) 54 percent for workers 35–44, and (iv) 40 percent for workers 45–49. Thus, the data described in this and the preceding paragraph comprise a body of circumstantial evidence suggesting long-term contracting.

Insofar as implicit contracts moderate cyclical variations in real wages, we might expect to find that long job tenure is paired with relatively little real wage variability while short job tenure is paired with relatively variable real wages across aggregate labor markets—additional circumstantial evidence concerning economy-wide long-term implicit contracting. There is, however, little correlation between various measures of cyclical real wage variability and job tenure across different OECD countries, for example (OECD 1984, p. 66). Thus, at the aggregate level, long job tenure is not obviously the result of implicit contracting. Because the aggregate U.S. economy is in many ways similar to other

³⁸ A word of caution is needed because Hall extrapolates from a few observations to generate a distribution of job offers.

OECD countries, our previous argument at lengthy job attachment in the United States may imply widespread long-term implicit contracting is further weakened. Clearly, more concrete evidence is needed, but we know of none in the existing literature.

V. Concluding Remarks

One message comes through loud and clear in the aggregate labor market data of the United States. There is little empirical support for what has been termed the substitution hypothesis of cyclical movements in the aggregate real wage, employment, and unemployment. The surprisingly small body of appropriately focused empirical research has yet to find aggregate real wage misperceptions or intertemporal labor supply elasticities that are large enough for us to conclude that the aggregate labor market outcomes we seek to understand largely represent 'sighted workers' intended short-run labor supply responses in an auction setting.

A second interpretation of business cycle behavior is that the aggregate labor market fails to clear in the short run because wage and price rigidities cause firms to ration work opportunities. Tests of labor market rationing (persistent excess supply of labor) commonly hinge on whether cyclical unemployment is part of desired labor supply. Empirical research generally finds that the aggregate real wage is downwardly rigid and supports the hypothesis that cyclical unemployment reflects a gap between actual employment and the point on the aggregate labor supply function associated with the current real wage. However, existing research on short-run labor market disequilibrium sidesteps the issue of why so-called sticky wages and prices exist with cyclical unemployment. The most logical argument seems to be that

it is part of a long-term contract between workers and firms.

Under an equilibrium long-term contract, the present values of the wage and labor's marginal product clear the labor market, and it is only by chance that current employment coincides with what workers would choose to supply in a spot auction market at the current real wage. Unfortunately it is difficult, perhaps impossible, to test the hypothesis that the aggregate labor market is characterized by long-term contracting because the predicted labor market outcomes are often indistinguishable from other theoretical models. Still, it is important to note that disaggregate evidence on job tenure indicates that many workers remain with the same employer for quite a long time. While this could be the result of repeated auctions that tend to match previous buyers and sellers, we think something more akin to long-term implicit contracting is occurring.

But perhaps no single model applies to all labor markets. For instance, some employees may be working in jobs involving a long-term association with their employers while other employees work under short contracts. This gives rise to the division between "job shoppers" and "careerists" (Michael Darby, John Haltiwanger, and Mark Plant 1985). In normal (full-employment) times, most of the unemployment comes from the former group, who exhibit high labor force entry and exit rates. Careerists rarely become unemployed, but when they do they spend a long time at it. Job search by careerists, then, dominates cyclical unemployment during the period when the economy is recovering from a recession, producing substantial persistence in cyclical unemployment. This is important because such unemployment rate persistence could be misinterpreted by a researcher as stemming from continual errors in wage expectations, when in fact

it simply reflects careful job search by (a heterogeneous group of) farsighted optimizing workers. In a similar spirit, Robert Topel (1986) develops a dynamic econometric model of spatially separated local labor markets that admits permanent and transitory economic shocks. Topel finds that transitory labor market shocks have the largest impact on what he terms the least economically mobile workers—the very new and very experienced. Those he terms the most economically mobile, workers in the middle of their working lives, seem to be buffered from such disruptions. Another interpretation of this result, though, is that we are witnessing a type of dualism at work—some workers with long-term contracts (“careerists”) and others with more short-term arrangements (“job shoppers”).

The two papers just discussed have in common an attempt to focus on worker heterogeneity, while largely remaining within an aggregate context.³⁹ Whether a hybrid approach emphasizing parallel labor markets of workers subject to short-term auction outcomes and those with long-term contracts can greatly improve our current empirical models of the aggregate labor market remains to be seen.⁴⁰

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³⁹ See John Abowd and Card (1987) for some related econometric research at the micro level.

⁴⁰ For an examination of how well this approach helps us understand the recent high European unemployment rates see Olivier Blanchard and Lawrence Summers (1986).

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General Equilibrium with Free Entry: A Synthetic Approach to the Theory of Perfect Competition*

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The essay is dedicated to the memory of Tjalling Koopmans (1910-1985). Our purpose has been to communicate to the nonspecialist an aspect of mathematical economics that has been developed since Koopman's masterful exposition of general equilibrium theory (1957). It is very difficult to do the job as well as Professor Koopmans, but he urged us all to try.

I. Introduction

THE TWO DISTINCT THEORIES of perfect competition, the Marshallian and the Arrow-Debreu-McKenzie (ADM), assume price-taking behavior as a fundamental. Filling blackboards with partial equilibrium diagrams, professors emphasize the Marshallian theory at the undergraduate level. As students progress, their teachers introduce them to the Arrow-Debreu-McKenzie theory, Gerard Debreu's *Theory of Value* (1959), the framework in which "highbrow theorists" explore the relation between perfect competition and economic efficiency. During the first half of this century, Mar-

shallian analysis unquestionably dominated the theory of value. Although this probably remains true, a growing number of papers in the applied areas adopt a variant of the ADM framework. Only in this context can they discuss the importance of interactions among markets and the distribution of wealth.

The Marshallian and ADM theories have many striking and essential differences, for example:

1. The ADM theory specifies a fixed finite number of firms. The Marshallian theory postulates a pool of firms, any number of which may be active in the market.
2. The ADM theory postulates that the technology of each firm is convex, which rules out increasing returns to scale. The Marshallian the-

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ory postulates that the average cost curve of each firm is U-shaped, based on the assumption of fixed costs of production or regions of increasing returns to scale.

3. The ADM theory assumes price-taking behavior regardless of the number of firms. The Marshallian theory assumes it only if the efficient scale is small relative to demand.
4. ADM theory, a general equilibrium theory, relates perfect competition and economic efficiency. Most of Marshallian analysis, partial equilibrium, ignores intermarket effects.
5. Finally, the ADM theory is a static one, to which the adjoinment of dynamics via a tâtonnement is not very satisfactory. The Marshallian analysis of equilibria is a dynamic one in the sense that entry and exit of firms cease in equilibria.

This essay explains a new theory of perfect competition, a synthesis of the ADM and Marshallian theories, and summarizes the recent work of many researchers (for example, Philippe Artzner, Carl Simon, and Hugo Sonnenschein 1986; Oliver Hart 1979; Andreu Mas-Colell 1974, 1983, 1986; William Novshek 1980; Novshek and Sonnenschein 1978, 1980, 1983, 1986a, 1986b; Kevin Roberts 1980; and Sonnenschein 1982). (See also the Symposium Issue, 1980 and the references therein.)

The new theory enables those economists who work in the world of U-shaped average cost curves and free entry to study intermarket effects and the decentralization and efficiency of perfect competition. We believe the traditional ADM theory dismays many Marshallians because it contains no role for marginal firms and insists on competitive behavior independent of the firm's ability to influ-

ence price. The synthetic theory allows both for marginal firms and for the firm to recognize its influence on price; it provides a precise general equilibrium framework for positive analysis and a framework in which to demonstrate the classical theorems of welfare economics. In contrast to both the ADM and Marshallian theories, we integrate into our analysis the leading classical explanation for price-taking behavior rather than assume it. We use the term *perfect competition* to describe a situation in which firms are arbitrarily small relative to their markets. Here firms perceive and take account of the price effect of their marketed quantities. As firms become small relative to the market, we observe in accordance with Cournot that their influence on price disappears and it is the limit of this that we call *perfect competition*. Because price-taking behavior is explained along the lines of the Cournot theory, what we offer might be better termed a *Cournot-Marshallian-ADM synthesis*.¹

The Marshallian perspective enriches general equilibrium theory. A new condition effects a close correspondence between the general equilibrium model and standard intuition. Loosely speaking, it requires that prices provide the proper entry signals for firms and is a consequence of the dynamic aspect of Marshallian analysis. With each firm associated with the use of an unpriced and nondivisible resource, sometimes referred to as entrepreneurship, in equilibrium the returns to that factor must fall with entry and rise with exit. Such a condition might

¹ It is also important to acknowledge that small efficient scale and free entry, while sufficient to guarantee price-taking behavior in the limit, may not be necessary (see for example Michael Spence 1983). The extent to which free entry alone is sufficient (for the price-taking conclusion) is a much debated issue and is not discussed here. We believe that without the assumption of small efficient scale the case for price-taking behavior becomes less compelling.

seem axiomatic for partial equilibrium analysis where we cannot imagine its violation, but it is here that a general equilibrium perspective is important. In general equilibrium an increase in a commodity price, for example, a wage, has wealth effects via the changing value of the endowment that may increase the amount demanded of the commodity, for example, leisure, whereas in the typical partial equilibrium analysis of the firm such wealth effects are ignored. In general equilibrium the condition that prices provide the proper entry signals eliminates certain ADM equilibria. Hence, a combination of the Marshallian perspective and the general equilibrium perspective leads to better economics.

Before turning to the theory, a final word on the mathematical aspects of this paper. The papers on which we have based this essay are rather technical. Also, in its general form, the model we have in mind is more complicated than the model of equilibrium found in Debreu's classic *Theory of Value* (1959). In order to explain the results to the nonspecialist, we must forfeit either generality or precision. We will sacrifice generality and frame many of our arguments in a well-developed example. Although we loosely state our propositions, application to our example yields precision. Occasionally the included proofs hint at the arguments necessary for the general case. The interested reader can find proper statements and proofs in the references (in particular, Novshek and Sonnenschein 1986b).

II. The ADM and Marshallian Models

To begin we present stylized versions of the ADM and Marshallian models in order to accentuate the relation between the ADM and Marshallian formulations. In particular, we will demonstrate that the ADM framework incorporates the

standard Marshallian specification. Next, we will use these models to motivate our definition of partial equilibrium markets (and general equilibrium economies) in which firms are small. This notion lies at the heart of our definition of perfect competition: Perfectly competitive markets (perfectly competitive economies) are markets (economies) in which firms are arbitrarily small relative to the market (economy).

A. A Stylized Arrow-Debreu-McKenzie Model

Our development follows Tjalling Koopmans' (1957) classic exposition of a Robinson Crusoe economy. There are two commodities, leisure and food. Robinson uses his leisure as an input to produce food according to constant returns to scale technology. Employing a convention of the Arrow-Debreu-McKenzie theory, we denote labor input as a negative quantity and food output as a positive one. Summarizing the technology with an appropriate choice of units, Figure 1 indicates that one unit of labor input yields one unit of food output. Robinson has 24 hours of leisure, his entire initial endowment of resources, to offer as labor input. Adding his leisure endowment to the technology set, we obtain the set T of possible aggregate supplies. Each point in T , a bundle (l, f) , contains l units of leisure and f units of food and satisfies $f \leq 24 - l$ (to be feasible, l units of leisure implies no more than $24 - l$ units of labor, and food is produced 1:1 from labor).

Indifference curves, connecting equally preferred combinations of leisure and food, represent Robinson's preferences. In the economy of Figure 1, a unique "best attainable point" exists, which we have denoted by x .

A price system, a nonzero non-negative vector (p_l, p_f) of commodity prices, defines the dollar value of each bundle

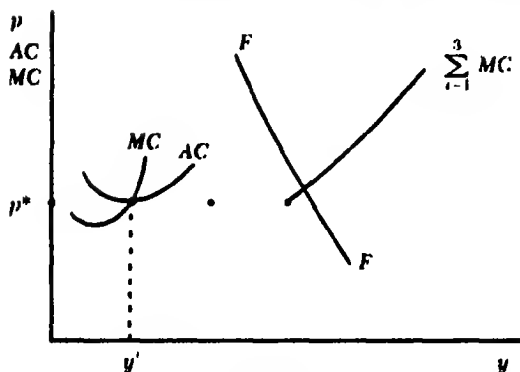


Figure 2.

optimum, and (b) every Pareto optimum is an equilibrium after a suitable redistribution of ownership.

We emphasize that the ADM model does not consider the plausibility of price-taking behavior. The model offers descriptions of perfect competition for situations in which bilateral monopoly (one consumer and one producer) or single agent maximization (Robinson) should apply.

B. A Stylized Marshallian Model

We begin with a familiar textbook figure (Figure 2) where we have labeled average cost, marginal cost, and demand AC , MC , and FF respectively. All firms are identical and their number is fixed arbitrarily at 3. The aggregate supply is zero up to price p^* (= minimum AC); at p^* supply is the indicated four point set (with gaps of length y' , the efficient scale, between the points), and above p^* supply is the horizontal sum of the marginal cost curves.

If additional firms can obtain the technology represented by AC , then the aggregate supply shown is inconsistent with a situation in which profit-maximizing firms take prices as given. Note that at any price above p^* any firm in the market may earn a positive profit, and so all firms

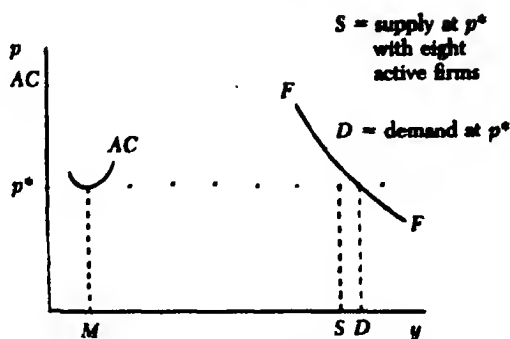


Figure 3a.

should be active.² When each firm is maximizing profit ($p = MC$) and the number of firms is such that firms have little incentive to enter or exit, we say that the market is in equilibrium.

Marshall applies his model of perfect competition when efficient scale (minimum average cost output) is small relative to demand. Another strong justification for the price-taking assumption is the fact that the horizontal gaps in the supply function at price p^* are small relative to demand. Here a particular number of active firms who maximize profit leave insufficient incentive for other firms to enter. The price in the market will exceed slightly p^* . Alternatively, we can consider an approximate equilibrium at price p^* , in which a finite number of firms maximize profit by offering the efficient scale output to the market, and demand very nearly matches supply. This is illustrated in Figure 3a.

In Figure 3b each firm achieves efficient scale at infinitesimal quantity M . We assume the existence of an unbounded mass of available firms. Let D be demand at prices p^* . Each firm producing at efficient scale M achieves an exact equilibrium at a mass D/M of active firms. Clearly Figure 3b represents a natural limit of markets of the type consid-

² Clearly, with free entry, an exact price-taking equilibrium will exist only in the unlikely event that the value of demand at price p^* is an integral multiple of the minimum average cost quantity.

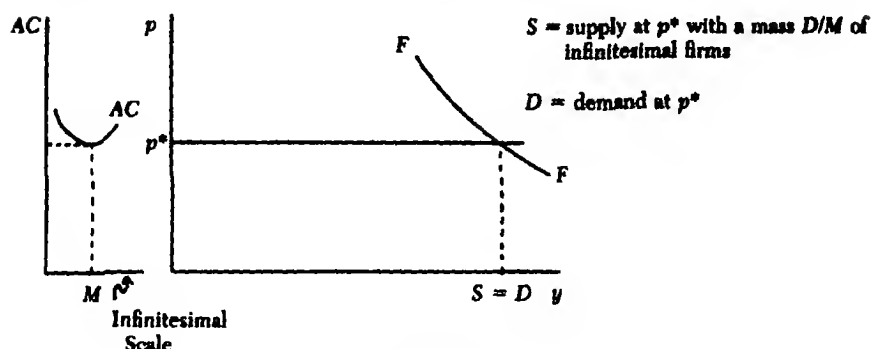


Figure 3b.

ered in Figure 3a as efficient scale becomes small relative to demand. In the equilibrium of Figure 3b a continuum of firms produce.

C. The Beginnings of the Synthesis

Let us first place the Marshallian model in the framework of the ADM theory to demonstrate that the framework of the ADM theory captures the Marshallian ideas. The U-shaped average cost corresponds to the firm technology represented in the second quadrant of Figure 4. The efficient scale is $(-M, M)$, corresponding to the minimum average cost point in partial equilibrium. We obtain the set of feasible aggregate production possibilities as follows. We start with an unbounded number of potential identical firms (analogous to free entry), each with the given production technology. Suppose n firms are active at each level of input. Select the allocation of inputs among firms that yields the maximum aggregate output. Next vary n to obtain the maximum aggregate output given the level of input. Repeat this for each input level, to obtain the aggregate technology. Combine this with the initial endowment to construct T , the feasible set of aggregate supplies. Given the indifference curves depicted in the first quadrant of Figure 4, no price-taking equilibrium will obtain. Observe that the only price

systems that lead to a positive output of food at a profit maximum take the form (p, p) . (Without loss of generality we will assume $p = 1$.) If the input price exceeds the output price, active firms operate at a loss; therefore all firms are inactive and production is $(0, 0)$, i.e., no input and no output. Alternatively if the output price exceeds the input price, each firm would make a positive profit by using M units of labor input to produce M units of food output. Hence all firms would be active, which requires an unbounded amount of labor. Thus for any price-taking equilibrium with positive food production, input and output prices must be equal. At prices $(1, 1)$ a consumer demands z , and each profit-maximizing firm supplies either $(0, 0)$ or $(-M, M)$. Hence aggregate supply (including the endowment) must take on one of the values $\{(24, 0), (24 - M, M), (24 - 2M, 2M), \dots\}$. In particular, the unique "best attainable point" x is not an equilibrium of the system.

By limiting the number of firms to three (as in the Marshallian example), we can find a price system $(1, 1 + \epsilon)$ at which supply equals demand and excluded firms have little incentive to enter. Furthermore, the associated allocation approximates the "best point" x as illustrated in Figure 5. Because the output price exceeds the input price, all three

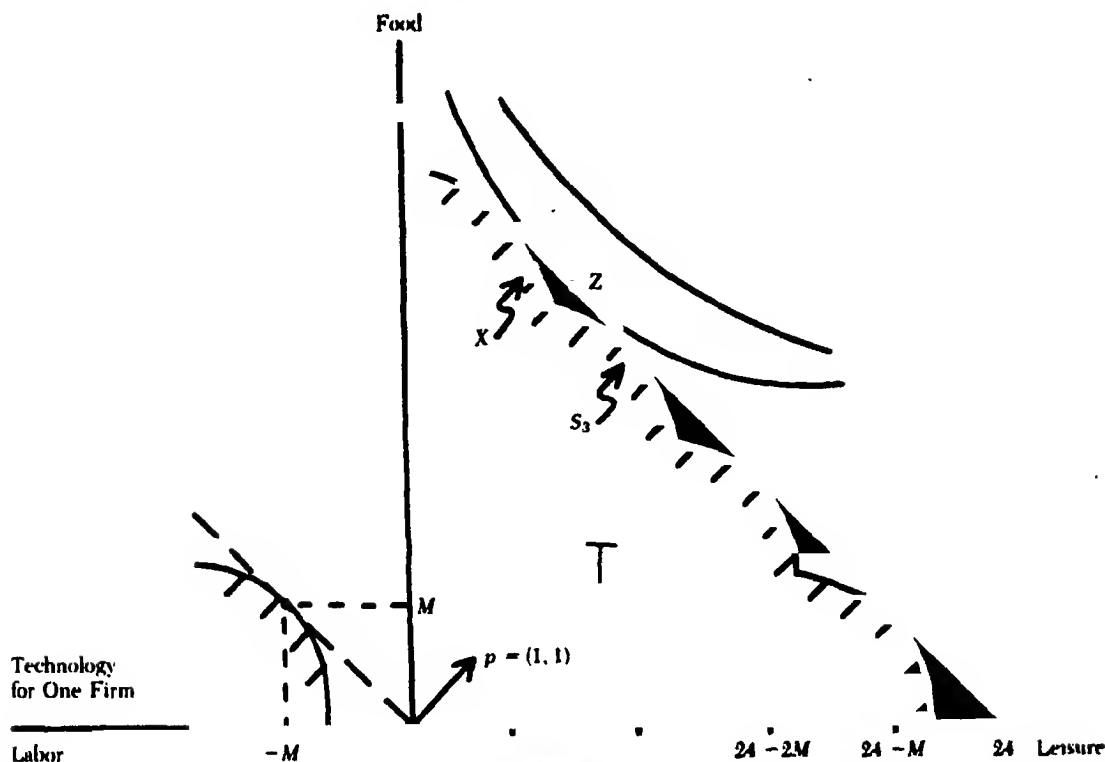


Figure 4

firms supply a positive amount. Point z' in Figure 5 represents the price-taking aggregate production plan. His income from ownership of the labor resource, combined with his (positive) dividend from ownership of all three firms gives Robinson a budget line through z' , which is his optimal choice. So aggregate supply equals aggregate demand.

Alternatively, at prices $(1, 1)$, we could consider an approximate price-taking equilibrium in which a finite number of firms produce positive quantities and maximize profit by offering the efficient scale output $(-M, M)$. In this situation demand nearly matches supply. Figure 4 essentially illustrates this where the gap between s_3 and z is small. Once again demand almost equals the "best point" x .

In Figure 6 the efficient scale of each firm is an infinitesimal quantity and there

is an unbounded mass of available firms. As in the Marshallian Figure 3b, an appropriate mass of active firms achieves an exact equilibrium at prices $(1, 1)$ at which each produces at efficient scale. Figure 6 represents a natural limit of markets of the type considered in Figure 4 as the firms become small relative to the market. We point out the similarity with the Arrow-Debreu-McKenzie economy of Figure 1 where the equilibrium and the "best point" coincide.

D. A Perfectly Competitive Economy

We will apply the term *perfectly competitive economy* to a regime in which firms are arbitrarily small relative to their markets. We adopt the classical position that consumers have no market power. However, we could have provided a similar treatment in which we

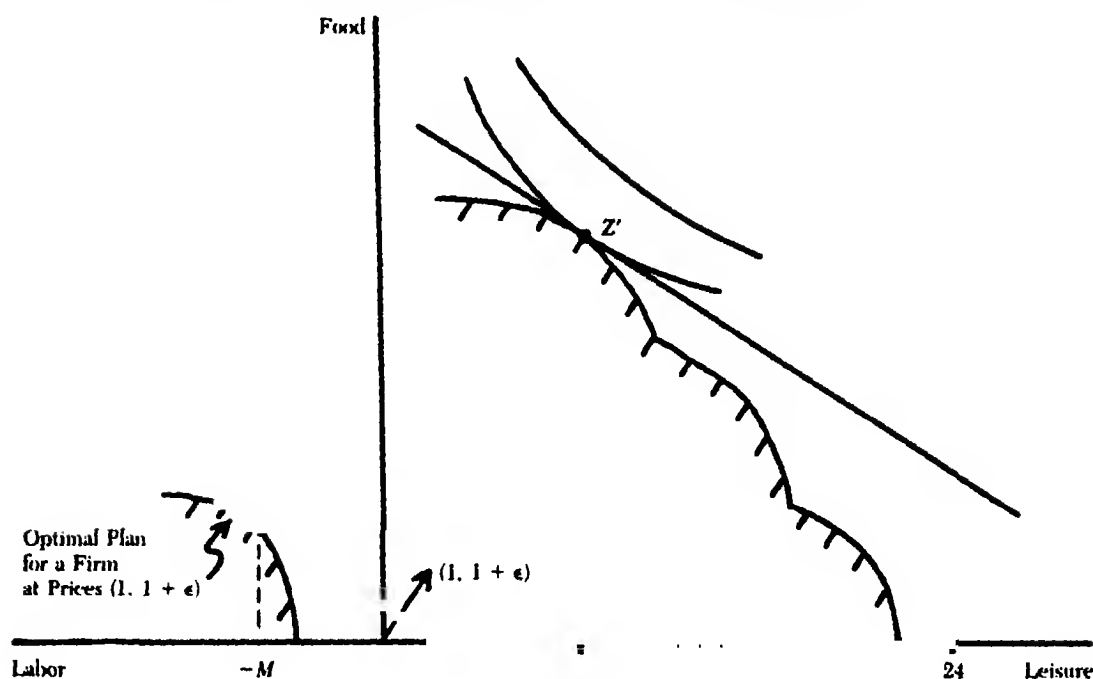


Figure 5.

view consumers and firms symmetrically. As in Marshallian theory, we assume that firms can freely enter and experience increasing returns to scale over some range of output to formalize the notion of the firm's being small relative to its market. In Figures 2 and 4 three firms, each producing at efficient scale, nearly satisfy the demand of consumers when price equals minimum average cost. By adding an identical twin for each original consumer to replicate demand, it would take six firms producing at efficient scale to satisfy demand approximately at the same price. Continuing in this manner each firm can be made arbitrarily small relative to its market. A perfectly competitive economy is a sequence of economies $[E(\alpha_k)]$ in which firms become arbitrarily small relative to their markets. In our formulation, α_k is a measure of firm size relative to the economy $E(\alpha_k)$, and we let the size of the firm in our economy diminish, $\alpha_k \rightarrow 0$. We denote the limit of the se-

quence by $E(0)$ in which firms are infinitesimal. With this interpretation the market in Figure 3b represents the limit of markets in Figure 3a. Similarly, the economy in Figure 6 is the limit of a sequence of economies in Figures 4 and 5.

In each economy of the sequence we will assume that firms correctly perceive the (typically non-negligible) effect on prices of their output, and maximize profit accordingly. Although nonconvexities in the firms' production sets lead to generic nonexistence of price-taking equilibrium (i.e., nonexistence for all but "knife-edge" cases), Cournot equilibrium with entry frequently exists for the Marshallian model if efficient scale is small. This suggests that the limit of Cournot equilibria of $[E(\alpha_k)]$ is a natural definition of an equilibrium for the perfectly competitive sequence $[E(\alpha_k)]$. In other words, we define perfectly competitive equilibrium as the limit of Cournot equi-

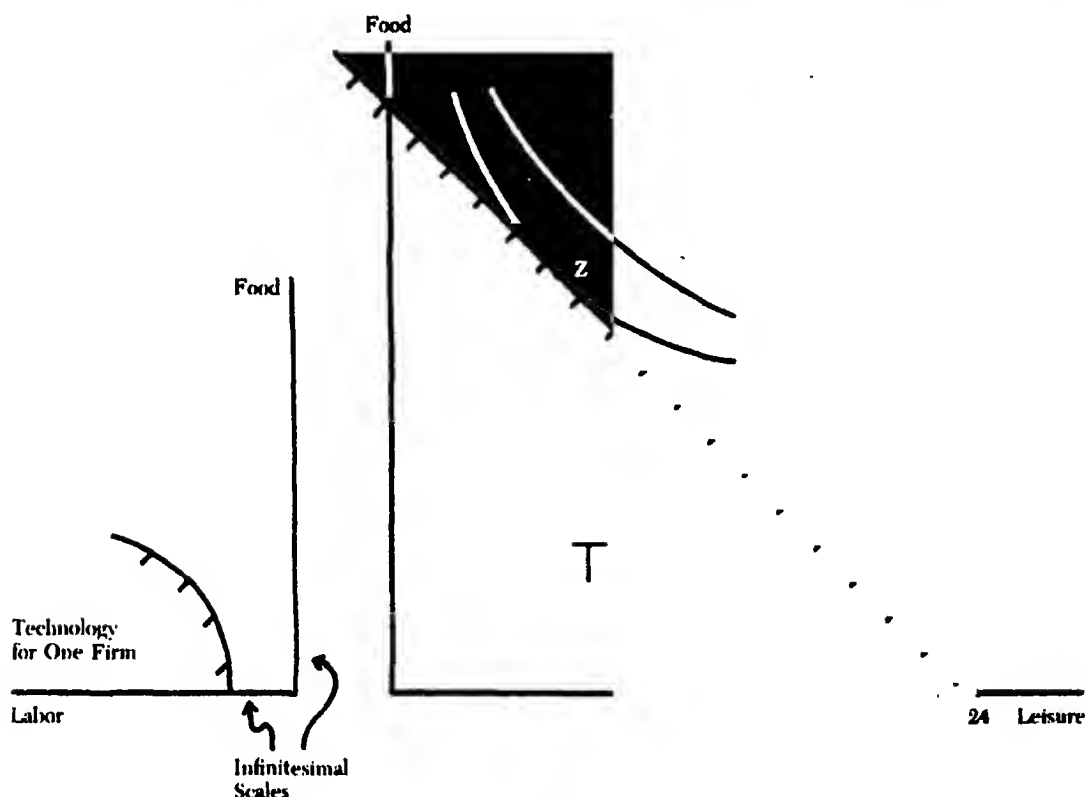


Figure 6.

libria with entry as firms become small relative to the market.

Not surprisingly we can characterize the perfectly competitive equilibria of the perfectly competitive sequence $[E(\alpha_k)]$ in terms of its limit economy $E(0)$ in which firms are infinitesimal. In light of this characterization we will show that firms in perfectly competitive equilibrium act "as if" they take prices as given in $E(0)$. On the other hand, we will show that other price-taking equilibria of $E(0)$ exist that are not the limit of Cournot equilibria with entry and thus not perfectly competitive equilibria of the sequence $[E(\alpha_k)]$.

Before continuing our exposition a historical note is in order. In their treatment of general equilibrium theory, Kenneth Arrow and Gerard Debreu (1954) concern themselves with the representation

of the technology and behavior of the individual firm. Lionel McKenzie (1950), however, speaks of a competitive constant returns to scale aggregate technology. McKenzie assumes forthrightly that aggregate technology T is a convex cone, which follows from the additivity and divisibility of basic production processes.³ We say a production set has the additivity property if for any two possible production plans the joint production plan is also feasible. It has the divisibility property if any production plan can be proportionately scaled down. Additivity is regarded as axiomatic when *all* factors that affect production are listed so that there can be no underlying fixed factor.

³ The assumption that T is a convex cone with vertex at the origin means that for any two production plans x, y in T , and for all non-negative numbers a, b , the production plan $ax + by$ is also in T .

Divisibility might be thought of as analogous to the assumption that commodities are infinitely divisible. McKenzie does not explicitly mention firms, but we might regard them as producing outputs from inputs according to one of an infinity of basic processes. When efficient scale is infinitesimal relative to the economy, these processes can be expanded or contracted continuously in the aggregate by varying the mass of firms using each process, and this corresponds to the situation in $E(0)$. Thus our foundations rest on the McKenzie interpretation of general equilibrium theory which we elaborate by explicitly modeling firms and by providing Cournot-like foundations for competitive behavior.

III. The Partial Equilibrium Synthesis

An appropriate introduction to the notions of a perfectly competitive economy and perfectly competitive equilibrium is consideration of a partial equilibrium market. Besides being a natural stepping stone to our synthesis, it provides a rigorous foundation for the Marshallian theory. Explicitly, we establish the existence of equilibrium for the partial equilibrium market without either the need for introducing the approximate equilibrium notions described above or infinitesimal firms. Furthermore, firms correctly perceive their influence on price.

We first develop the notion of a *perfectly competitive sequence* of partial equilibrium markets. This is a sequence of Marshallian markets for a single homogeneous good where firms decrease in size. As suggested above, we define a *perfectly competitive equilibrium* as the limit of Cournot quantity setting equilibria-with-entry of the markets in the sequence.

Let us begin by returning to the Marshallian specification as in Figure 2. In

order to simplify the analysis we assume some special structure for the cost function $C(y)$, namely that total costs are zero if production is zero while, if production is positive, costs consist of both strictly positive fixed costs C_0 and variable costs v . We assume variable costs increase with output at an increasing rate.

$$(C) \quad C(y) = 0, \text{ if } y = 0, \text{ and } C(y) = C_0 + v(y) \text{ if } y > 0, \text{ where } C_0 > 0, \text{ and for all } y \geq 0, v' > 0, v'' \geq 0. \text{ We also assume average cost is minimized uniquely at } y = 1.$$

An inverse demand function F specifies demand by associating a price $[F(y)]$ with an amount (y) placed on the market. We assume

$$(F) \quad F \text{ is twice continuously differentiable and } F(y) = C(1) \text{ implies } F'(y) \neq 0.$$

These are regularity conditions that enable us to use the calculus in our analysis. (C, F) specifies the basic Marshallian market. We assume there is no bound on the number of firms with access to a particular cost function. This captures the idea of free entry. Of course in equilibrium, demand will limit the number of firms using a technology.

A perfectly competitive sequence of markets $[M(\alpha_k)]$ is a sequence of markets in which firms become small relative to the market. Let C be the cost function for a firm in market $M(1)$. The corresponding average cost is $AC_1(y) = C(y)/y$ for $y > 0$. We take a representative sequence of markets by rescaling the average cost functions: In market α , the output αy has the same average cost as output y in market 1. We can accomplish this by defining an α -size firm corresponding to C as a firm with cost function $C_\alpha(y) = \alpha C(y/\alpha)$. An α -size firm has average cost $AC_\alpha(y) = AC_1(y/\alpha)$, and attains minimum average cost uniquely at out-

put α . For each $\alpha > 0$, C , and F , we consider a market with a countable infinity of firms with technology C_α facing market inverse demand F . We denote this market by $M(\alpha)$. As $\alpha \rightarrow 0$, firms become small relative to the market, and the aggregate production possibilities converge to the constant returns to scale case diagrammed in Figures 3b and 6. Given the cost function C and the inverse demand function F , we can define a perfectly competitive sequence of markets by any sequence of strictly positive real numbers less than or equal to one, where the sequence, representing firm size, shrinks to zero. We denote the limit market by $M(0)$. In particular, if the sequence of firm sizes is $1, \frac{1}{2}, \frac{1}{3}, \dots$ then the perfectly competitive sequence of markets may be thought of as resulting from repeated replication of demand followed by the representation of output in per-capita (actually per-replication) units.

Cournot equilibrium requires that the quantity actions of firms maximize profit given the quantity actions of all other firms. In equilibrium no firm makes negative profit, because exit is possible and yields zero profit. Similarly, the assumption of an unbounded set of firms with access to the technology, only a finite number of which can be active (because of fixed costs), implies that in equilibrium no inactive firm can enter and make a positive profit. Stated precisely, a (pure strategy) Cournot equilibrium with entry for the market $M(\alpha)$ is an integer n and a set of positive outputs (y_1, y_2, \dots, y_n) such that:

- (a) (y_1, y_2, \dots, y_n) is an n -firm Cournot equilibrium (without entry); that is, for all $i = 1, 2, \dots, n$, $F\left(\sum_{j=1}^n y_j + y_i\right)y_i - C_\alpha(y_i) \geq F\left(\sum_{j=1}^n y_j + y\right)y - C_\alpha(y)$ for all $y \geq 0$. No active firm can choose another production plan y and earn greater

profit given the production plans of all other active firms.

- (b) entry is not profitable; that is $F\left(\sum_{j=1}^n y_j + y\right)y - C_\alpha(y) \leq 0$ for all $y \geq 0$.

Cournot equilibrium with entry is an "exact" equilibrium of the model where firms do not take prices as given. Individually maximizing profit, firms (noncompetitively) supply exactly the quantity demanded by consumers at the Cournot equilibrium price $F(\sum y_j)$.

Finally, we define the equilibrium output of the perfectly competitive sequence $[M(\alpha_k)]$ as the limit of $\sum y_j(\alpha_k)$ where $[y_1(\alpha_k), \dots, y_{n_k}(\alpha_k)]$ is a Cournot equilibrium with entry of the market $M(\alpha_k)$. These are called *perfectly competitive equilibria*.

Our definition of perfectly competitive equilibrium formalizes the idea that perfect competition represents a limiting case of regimes in which firms can influence price. Among economists interested in rigorous foundations our definition may not at first be acceptable. They object because some or all of the markets that form a perfectly competitive sequence may lack a Cournot equilibrium. Hence our definition is meaningless. If demand is downward sloping, however, then a Cournot equilibrium exists eventually in any sequence of markets $[M(\alpha_k)]$ forming a perfectly competitive sequence. By assuming that demand slopes downward our equilibrium concept will apply. Theorem 1 identifies the conditions "demand price equals minimum per unit cost" and "demand slopes downward" in the limit market $M(0)$ as the characteristics of perfectly competitive equilibria for a sequence $[M(\alpha_k)]$. Free entry and exit determine the mass of active firms endogenously. Average cost curves are U-shaped (and so firm technology is not convex). The theory does not

assume price-taking behavior. Equilibrium is exact, production equals demand, and all firms maximize profit.

Theorem 1. (See Novshek 1980.) Given the cost function C satisfying (C), the inverse demand function F satisfying (F), and the perfectly competitive sequence $[M(\alpha_k)]$, the following conditions are equivalent:

- (1a) y^* is a perfectly competitive equilibrium for $[M(\alpha_k)]$, and
- (1b) $F(y^*) = C(1)$ and $F'(y^*) < 0$.

For the case of partial equilibrium, the preceding result describes precisely our approach to perfect competition. Perfectly competitive equilibria are the limit points of Cournot equilibria of the Marshallian markets $[M(\alpha_k)]$.

This theorem establishes that these perfectly competitive equilibrium quantities in $M(0)$ equate the inverse demand price of consumers and minimum average cost and satisfy downward-sloping demand. For the case of globally downward sloping demand, the perfectly competitive equilibria of the sequence $[M(\alpha_k)]$ coincide with the unique Walrasian equilibrium in the derived constant returns to scale market $M(0)$. On the other hand, if inverse demand is not globally downward sloping,⁴ then there may be Walrasian equilibria of the derived (constant returns to scale in the aggregate) market $M(0)$ that are not by our definition competitive equilibria. These equilibria fail because we require that entry and exit also be at rest.

Figure 7 illustrates this point. In Figure 7, the points y^* and y^{**} are equilibria of the perfectly competitive sequence $[M(\alpha_k)]$, but \hat{y} is not, even though the demand price of consumers and minimum average cost coincide at \hat{y} . We ar-

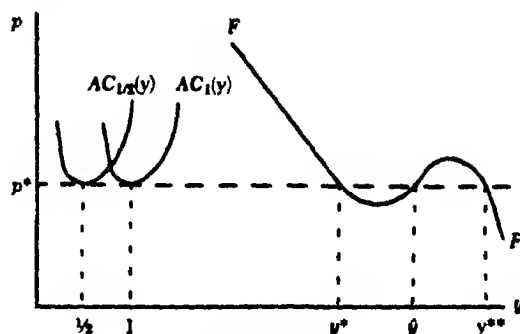


Figure 7.

gue that \hat{y} does not constitute an equilibrium because an infinitesimal firm in $M(0)$ can enter and make a positive profit. First, observe that in any Cournot equilibrium for the market $M(\alpha)$ all firms make non-negative profit so aggregate output must lie in $[0, y^*]$ or $[\hat{y}, y^{**}]$. Second, inactive firms must not profit by producing α , so aggregate Cournot equilibrium output plus α must lie in $[y^*, \hat{y}]$ or $[y^{**}, \infty)$. This implies that aggregate output must lie in either the interval $[y^* - \alpha, y^*]$ or $[y^{**} - \alpha, y^{**}]$. For small α neither interval is near \hat{y} . In fact this is how one proves that 1a implies 1b. The hard part of the theorem is to show that for α sufficiently small, if $F(y^*) = C(1)$ and $F'(y^*) < 0$, then $M(\alpha)$ has a Cournot equilibrium with entry with aggregate output in $[y^* - \alpha, y^*]$.

The above argument highlights the differences of our equilibrium concept and the Walrasian equilibrium in the limit market. In the Walrasian theory firms take prices as given, and in perfect competition we justify this as an approximation. The approximation applies so long as firms are small relative to their market and thereby have little influence in most any specification of strategic variables. Here the ability of each firm to affect price diminishes; however, in general each firm will have some influence that will affect the entry decision. If the entry of a firm will drive up price and make

⁴ This becomes a more interesting possibility when demand is a function of both price and wealth (which in turn depends on price as in the derivation of the supply of labor).

entry profitable, then inactive firms will take account of this effect and enter. In our model small firms correctly perceive their influence; therefore equilibrium requires that no firm can drive up prices by entering.

V. The General Equilibrium Model, Preliminaries

In this section we discuss the general equilibrium model on which we base our concept of perfectly competitive equilibrium. In the next section the model will be presented in the context of a simple example. This facilitates the exposition and should illustrate the close relationship between the partial equilibrium and general equilibrium models.

A perfectly competitive sequence of economies $[E(\alpha)]$ is analogous to a perfectly competitive sequence of markets. As α converges to 0 firms become arbitrarily small relative to the economy and the limit economy, $E(0)$, are infinitesimal. Each economy $E(\alpha)$ has an unbounded set of potential firms. This provides our notion of free entry. In any equilibrium for $E(\alpha)$ only a finite number of firms can be active, so inactive firms always exist and can test the profitability of entry. No firms enter if they cannot obtain positive profit by doing so.

In each economy $E(\alpha)$, we use Cournot-Nash equilibrium in quantities as our equilibrium concept. As in Marshall, we treat consumers as a competitive, price-taking sector to focus on the role of firms and entry. In the Cournot tradition, quantity setting provides a tractable basis for our analysis and, as was the case in the partial equilibrium model, it avoids the obvious problem of nonexistence of equilibrium that arises when firms set prices in conditions of production under increasing returns. When firms consider a quantity decision (a vector of input and output levels) they evaluate the corresponding

profit using an "inverse demand" function F . In the next section we will carefully construct this function. The idea is this: To each vector of quantity actions of all firms, y , the "inverse demand" function associates a price vector, p , such that the competitive consumer sector's excess demand, given prices, p , and the income generated by the consumers' dividend payments (their fraction of the profit or loss for each firm), exactly matches the aggregate quantity action of the firms. Thus the payoff for each firm is a well-defined function of its own production plan and the production plans of other firms. Although some firms may be making losses, for any vector of production plans employed by the firms, prices adjust so that all markets clear. A Cournot equilibrium exists if (1) each firm takes a feasible action in its production set; and (2) each firm maximizes profits given F and the actions of other firms. The assumption of nonconvex technologies (the general equilibrium analog of U-shaped average cost) implies that only a finite number of firms have nonzero actions in equilibrium. Note that inactive firms are available but cannot make positive profits by entry. Hence, the entry process is at rest in an equilibrium. Thus we have a description of Cournot equilibrium with free entry for each economy $E(\alpha)$.

For each economy $E(\alpha)$, consider the set of aggregate firm actions corresponding to Cournot equilibria of $E(\alpha)$ relative to "inverse demand" F . We define the perfectly competitive equilibria of the sequence of economies $[E(\alpha)]$ to be the limits of Cournot equilibria of the $E(\alpha)$ economies. Explicitly, a price vector p^* and an aggregate production vector y^* form a perfectly competitive equilibrium of the sequence $[E(\alpha)]$ provided that for an "inverse demand" selection F satisfying certain conditions, y^* is the limit of a sequence $[y(\alpha)]$ as α converges to zero.

where $y(\alpha)$ is an aggregate production corresponding to a Cournot equilibrium of $E(\alpha)$ (relative to F). This coincides with the partial equilibrium model of Section III.

The partial equilibrium results in Section III depended on a condition of downward sloping demand. The results for general equilibrium will depend on an analogous condition, called DSD. Prices determined by the "inverse demand" selection F must give proper entry signals. At a point satisfying the ADM equilibrium conditions, additional entry must lead to new prices at which the entrants make losses. Because input and output prices change, the DSD requirement is that the net effect of all the price changes leads to a loss for the entrant.

Walras had something similar to DSD in mind (Leon Walras [1874-77] 1954, p. 225):

[U]nder free competition, if the selling price of a product exceeds the cost of the productive services for certain firms and a profit results, entrepreneurs will flow towards this branch of production or expand their output, so that the quantity of the product [on the market] will increase, its price will fall, and the difference between price and cost will be reduced; and, if [on the contrary], the cost of the productive services exceeds the selling price for certain firms, so that a loss results, entrepreneurs will leave this branch of production or curtail their output, so that the quantity of the product [on the market] will decrease, its price will rise and the difference between price and cost will again be reduced.

In the next section we will see how our framework allows us to analyze a logically precise general equilibrium model with nonconvex technologies where the number of active firms is determined endogenously and demand equals supply exactly. We do not assume price-taking behavior. Rather, when α converges to zero the ability of a firm to affect price becomes arbitrarily small. At any per-

centage, equilibrium production maximizes profit relative to the equilibrium prices. We will show that the equilibria of the perfectly competitive sequence satisfy all the conditions of an ADM equilibrium of the limit economy $E(0)$. Also, we will show that the classical welfare theorems still hold in our framework: every perfectly competitive equilibrium of the sequence is Pareto efficient and every Pareto efficient allocation for the sequence can be supported as a perfectly competitive equilibrium of the sequence.

V. The General Equilibrium Synthesis

We adopted our general equilibrium model, with the exception of production sets (and our sequence of economies approach), from the standard Arrow-Debreu-McKenzie model. The economies $E(\alpha)$ are composed of consumers and firms. Each consumer receives an initial endowment of goods and has preferences over potential bundles of goods. For example, the first two diagrams of Figure 8 show representative indifference curves for two consumers, A and B, in an economy with two commodities, leisure and food, each of which can be consumed only in non-negative amounts. Both consumers prefer to consume the two commodities in fixed proportions, person A at 1:1, person B at 1:2. A particular utility function that assigns utility equal to the minimum of l and f to a bundle with l units of leisure and f units of food represents person A's preferences. Similarly, one that assigns utility equal to the minimum of $2l$ and f to the bundle (l, f) represents B's. They receive identical endowments of $(1, 0)$, containing one unit of leisure and no food.

To construct a general equilibrium analog of U-shaped average cost and free entry we differ from the standard assumptions on the producer sector in two important ways. Each firm's production

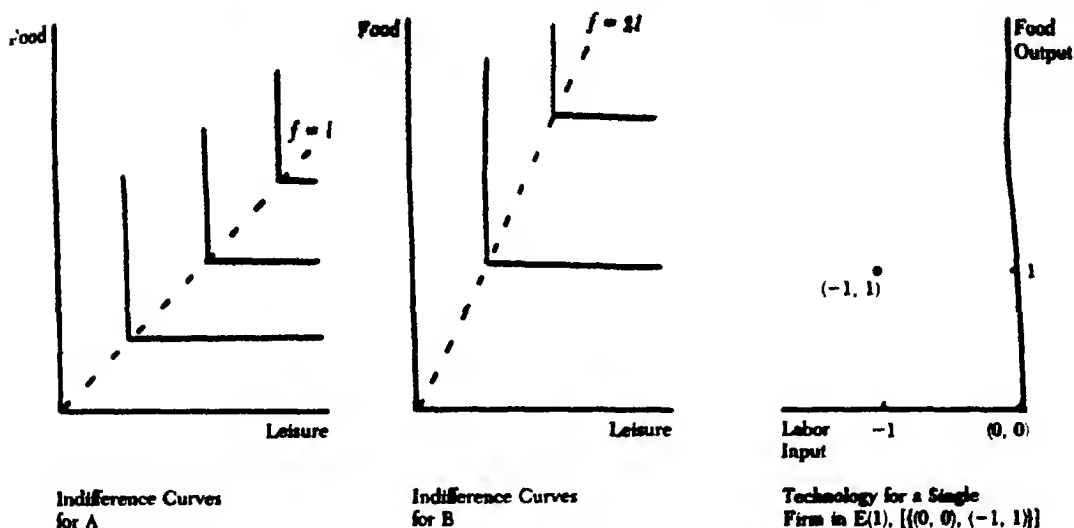


Figure 8.

set, the set of possible production plans for the firm,⁵ has two components. The first is the origin (the production plan with no inputs and no outputs) and the second component is bounded away from the origin, compact and strictly convex. By *compact* we mean there is some number that is a bound for the magnitude of any input or output level in any feasible production plan (boundedness), and if a sequence of feasible plans has a limit, the limit is also feasible (closedness). By *strictly convex* we mean that for any two production plans in this component, any weighted average of the two plans is in the interior of this component. See Figure 9. This assumption provides a simple production set analog of U-shaped average cost in partial equilibrium. Inclusion of the origin in the production set guarantees free exit. For our example we will use the simplest version of this type of production, an on-off technology. The third diagram of Figure 8 shows the technology of a typical firm in $E(1)$. The firm has only two options. It can be inactive

with production plan $(0, 0)$, or it can use one unit of leisure as labor input (negative by convention) to produce one unit of food as output with production plan $(-1, 1)$. Observe that the production set $\{(0, 0), (-1, 1)\}$ contains all possible input-output vectors for the firm. The firm cannot scale the production level up or down to produce $(-2, 2)$ or $(-1/2, 1/2)$: there is an indivisibility in the production process at the firm level.

Our model differs from the standard ADM one in a second way. We assume that there is free entry with no bound on the number of possible firms. Each economy has an infinity of potential firms; a countable infinity of firms exist in each economy $E(\alpha)$, and a continuum of firms in the limit economy $E(0)$. In the Cournot equilibria of $E(\alpha)$ only a finite number of firms operate so that there will always be additional firms to check the profitability of entry.

By rescaling technologies in a manner analogous to the rescaling of cost in the partial equilibrium model of Section III, we generate a sequence of economies $[E(\alpha)]$ converging to a limit economy $E(0)$. For our example, each $E(\alpha)$ contains

⁵ Each production plan is a vector with a complete specification of all inputs and outputs for that plan.

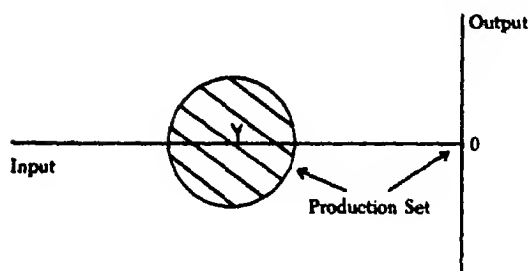


Figure 9.

a countable infinity of firms with production sets $\{(0, 0), (-\alpha, \alpha)\}$. Note that a firm's technology is small relative to the economy when α is small. The aggregate production set in $E(\alpha)$ is $\{(0, 0), (-\alpha, \alpha), (-2\alpha, 2\alpha), \dots\}$: Aggregate production depends only on the number of active firms. The aggregate production set "converges" to the constant returns to scale technology that converts labor input into food output in the ratio 1:1. This constant returns to scale technology corresponds to the aggregate production set in the limit economy $E(0)$ with a continuum of infinitesimal firms. (As a closed, convex set this limit aggregate production set satisfies standard ADM assumptions for the production set of a single firm.)

For simplicity the consumer sectors of each $E(\alpha)$ and $E(0)$ coincide, and consumer i owns a fraction of firm t independent of the firm (i.e., if θ_{it} is the fraction of t owned by i , then $\theta_{it} = \theta_i$ for all t). In our example consumer A owns fraction θ_A of each firm while consumer B owns $1 - \theta_A$ of each firm. Let $\theta_A = 3/4$. Thus $E(\alpha)$ "converges" to the limit economy $E(0)$ in terms of both consumer and producer sectors.

In order to define a Cournot equilibrium in $E(\alpha)$ we need a general equilibrium analog of a partial equilibrium inverse demand function so that firms can evaluate the profits corresponding to different actions. There is an important dif-

ference between partial and general equilibrium inverse demand functions. In partial equilibrium, dollar incomes remain constant while a single price varies. In contrast, the general equilibrium inverse demand function takes full account of the induced changes in income, through both changes in the value of endowments and in the received dividend payments.

The assumption of equality across firms of each consumer's ownership share implies that each consumer's wealth depends only on prices p and aggregate production y , and not on the arrangement of production among firms. If consumer i owns fraction θ_i of each firm and has endowment vector w_i , then at prices p and the aggregate production y the consumer receives dividend payment $\theta_i p \cdot y$ and has total income $p \cdot w_i + \theta_i p \cdot y$. (Because inputs are negative in y , the sum of individual prices times planned inputs or outputs is just the firm's profit at plan y given prices p .) If his corresponding vector of demand is $D_i(p, p \cdot w_i + \theta_i p \cdot y)$ then the excess demand D of the consumer sector (the sum of individual consumer's gross demands, minus the sum of resources owned as initial endowments by the consumer sector) is the function $D = \sum_i D_i(p, p \cdot w_i + \theta_i p \cdot y) - \sum_i w_i$. An "inverse demand" selection $F(y)$ is a function from aggregate production vectors y to price vectors $F(y)$ that clear markets given the action of firms: $\sum_i D_i[F(y), F(y) \cdot w_i + \theta_i F(y) \cdot y] - \sum_i w_i = y$. This is the general equilibrium analog of partial equilibrium inverse demand. The corresponding partial equilibrium version as used in standard oligopoly theory would fix the income of consumer i at I_i rather than recognize that price changes affect income $[F(y) \cdot w_i + \theta_i F(y) \cdot y]$. Even after

price normalization several price vectors may clear markets given y . We assume F selects one of the price vectors.

We now illustrate an inverse demand function in terms of our example. Every feasible aggregate production plan assumes the form $(-t, t)$ where t is non-negative. Normalizing prices to sum to one (because only relative prices matter) the price vector is of the form $(1 - p, p)$ where p lies between zero and one. With aggregate production $(-t, t)$ and price $(1 - p, p)$ consumer A has income $(1 - p, p) \cdot (1, 0) + (1/4)(1 - p, p) \cdot (-t, t) = 1 - p + (1/4)t(2p - 1)$ and consumer B has income $(1 - p, p) \cdot (1, 0) + (1/4)(1 - p, p) \cdot (-t, t) = 1 - p + (1/4)t(2p - 1)$. If p is strictly between zero and one then consumer A has demand vector (I_A, I_A) and consumer B has demand vector $[I_B/(1 + p), 2I_B/(1 + p)]$ where I_i is the income of consumer i (recall Figure 8).

The "inverse demand" $F(-t, t)$ for the example must yield prices that, together with the resulting incomes, generate aggregate excess demand $(-t, t)$ in the consumer sector, to match exactly the aggregate production plan. Solving for F we find

$$F(-t, t) = \begin{cases} (0, 1) & 0 \leq t < 1/15 \\ [(15t - 16)/(6t - 4), (12 - 9t)/(6t - 4)] & 1/15 \leq t \leq 1/3 \\ (1, 0) & 1/3 < t \leq 2. \end{cases}$$

Observe that the inverse demand function depends on preferences and the initial distribution of wealth in the economy. In particular, when we consider a sequence of economies $[E(\alpha)]$, the inverse demand function is independent of α .

Using "inverse demand" F , firms determine an equilibrium for $E(\alpha)$ just as in the partial equilibrium case. In general

equilibrium the firms pick production plans to maximize profit, taking the production plans of all other firms as fixed. Free exit implies that in equilibrium no firm operates at a loss. Also, no inactive firm has an incentive to enter. Stated precisely, a Cournot equilibrium with entry for economy $E(\alpha)$ (relative to "inverse demand" F) is an integer n , the number of active firms, and a set of nonzero production plans (y_1, y_2, \dots, y_n) such that:

- (y_1, y_2, \dots, y_n) is an n -firm Cournot equilibrium (without entry); that is, for all $i = 1, 2, \dots, n$, y_i is a feasible production plan and $F(\sum_{j \neq i} y_j + y_i) \cdot y_i \geq F(\sum_{j \neq i} y_j + y) \cdot y$ for all feasible y , and
- entry is not profitable; that is $F(\sum_j y_j + y) \cdot y \leq 0$ for all feasible y .

Let F be a (continuous) "inverse demand" function for the economy $E(1)$. We define a *perfectly competitive equilibrium* for the sequence of economies $[E(\alpha)]$ as a price vector p^* and an aggregate production plan y^* such that (1) $F(y^*) = p^*$ and (2) y^* is the limit of aggregate production plans $y(\alpha)$ corresponding to Cournot equilibria with entry for economies $E(\alpha)$ (relative to F). Observe that every specification of perfectly competitive equilibrium includes an underlying inverse demand function.

In our example, the use of the on-off technology greatly simplifies the analysis when looking for an equilibrium of the sequence: Each firm's profit depends only on whether it operates and the total number of active firms. In $E(\alpha)$, N active firms result in each active firm receiving profit α if $N < 1/15\alpha$, $\alpha(14 - 12N\alpha)/(3N\alpha - 2)$ if $1/15\alpha \leq N \leq 1/3\alpha$, and $-\alpha$ if $1/3\alpha < N$. Inactive firms always have profit

zero. To be a Cournot equilibrium each active firm must have non-negative profit, so in equilibrium $N \leq \frac{7}{6}\alpha$. On the other hand, in Cournot equilibrium inactive firms must not have an incentive to be active, so in equilibrium $N + 1 \geq \frac{7}{6}\alpha$. Each $E(\alpha)$ has a Cournot equilibrium with $N(\alpha)$ active firms where $N(\alpha)$ is the integer between $(\frac{7}{6}\alpha) - 1$ and $\frac{7}{6}\alpha$ (when $\frac{7}{6}\alpha$ is an integer there are two values of N that work). The aggregate production plan in the Cournot equilibrium is $N(\alpha)(-\alpha, \alpha)$ which differs from $(-\frac{7}{6}\alpha, \frac{7}{6}\alpha)$ by no more than α units of input and α units of output. Thus in our example, $p^* = (\frac{1}{2}, \frac{1}{2})$ and $y^* = (-\frac{7}{6}, \frac{7}{6})$ is a perfectly competitive equilibrium for the sequence of economies $[E(\alpha)]$. At these prices consumer A chooses $(\frac{1}{2}, \frac{1}{2})$, consumer B chooses $(\frac{1}{3}, \frac{2}{3})$, and supply equals demand. Note that this agrees with the ADM equilibrium of the limit economy $E(0)$.

Next we would like to prove the first classical theorem of welfare economics: Perfectly competitive equilibria for the sequence $[E(\alpha)]$ are efficient in the sense of Pareto. We begin by defining a Pareto efficient allocation for the perfectly competitive sequence $[E(\alpha)]$. First observe the way in which the sequence $[E(\alpha)]$ converges to $E(0)$: The demand sectors of each $E(\alpha)$ coincide with the demand sector in the limit economy $E(0)$, and the aggregate production sets in $E(\alpha)$ converge to the constant returns to scale aggregate production set in the limit economy $E(0)$. As a consequence we define efficiency for the perfectly competitive sequence $[E(\alpha)]$ partially in terms of the limit economy $E(0)$.

A vector listing the consumption of each consumer and an aggregate production plan is called an allocation; if it is feasible for $E(0)$ then we say it is feasible for the sequence $[E(\alpha)]$. Feasibility requires that aggregate consumption differ from aggregate production by exactly the

aggregate endowment and also that aggregate production belong to the constant returns to scale aggregate production set of the limit economy $E(0)$. An allocation for the perfectly competitive sequence $[E(\alpha)]$ Pareto dominates an alternative allocation if it makes at least one consumer better off while leaving the remaining consumers at least as well off. A feasible allocation for the sequence $[E(\alpha)]$ is *Pareto efficient* if no feasible allocation Pareto dominates it.

Proposition. Equilibria of the perfectly competitive sequence $[E(\alpha)]$ are Pareto efficient.

The standard argument for this result, applied to our example, proceeds as follows. Recall that the perfectly competitive equilibrium for the sequence $[E(\alpha)]$ has corresponding allocation $(\frac{1}{2}, \frac{1}{2})$ for A, $(\frac{1}{3}, \frac{2}{3})$ for B, and aggregate production plan $(-\frac{7}{6}, \frac{7}{6})$ that yields zero profit at prices $(\frac{1}{2}, \frac{1}{2})$. This means that A supplies one-half of a unit of leisure (as labor input to the production process) and consumes one-half of a unit of food, while B supplies two-thirds of a unit of leisure and consumes two-thirds of a unit of food. In order to prove the proposition we must show that any allocation that Pareto dominates the equilibrium allocation is not feasible.

The set of bundles that A considers at least as good as $(\frac{1}{2}, \frac{1}{2})$ is $X_A = \{l, f) | l \geq \frac{1}{2}, f \geq \frac{1}{2}\}$. Similarly, $X_B = \{l, f) | l \geq \frac{1}{3}, f \geq \frac{2}{3}\}$. To make one of A and B better off while keeping the other at least as well off would require in excess of $\frac{5}{6}$ units of leisure and in excess of $\frac{7}{6}$ units of food. But with only two units of leisure available in the economy, more than $\frac{7}{6}$ units of food must be produced from less than $\frac{7}{6}$ ($= 2 - \frac{5}{6}$) units of labor. One can see immediately that such a production plan is not feasible with the one unit of food for each unit of labor constant returns to scale aggregate production set of the limit economy $E(0)$.

In general, we must use a less direct argument to show that a Pareto-dominating allocation a is not feasible. We combine the observation that, relative to the price system $(\frac{1}{2}, \frac{1}{2})$, the production plan that matches aggregate net consumption in a must yield a greater profit than does $(-\frac{1}{6}, \frac{1}{6})$ with the fact that $(-\frac{1}{6}, \frac{1}{6})$ is profit maximal in $E(0)$.

What are the properties of equilibria of the perfectly competitive sequence $[E(\alpha)]$? How are these equilibria related to the ADM (price-taking) equilibria of the limit economy $E(0)$? The answers agree with the partial equilibrium results of Theorem 1: The equilibria of the perfectly competitive sequence are those ADM equilibria of the limit economy that satisfy an additional condition, DSD. This condition is related to downward sloping demand in the partial equilibrium case.

Consider an equilibrium of the perfectly competitive sequence (p^*, y^*) relative to the "inverse demand" function, F . In $E(\alpha)$, a firm has a production set comprised of two components, the no-production component and the production one and the "inverse demand" function is continuous in a neighborhood of y^* . In our example the latter component of the production set contained the single production plan, $(-\alpha, \alpha)$. Though we did not assume price-taking behavior, as α converges to zero a firm's ability to affect price becomes arbitrarily small. For $\alpha > 0$ the entry or exit of firms has an effect on price. In the limit this effect disappears and the aggregate production plan y^* must maximize profit over the aggregate production set (a constant returns to scale cone) relative to prices p^* , and must satisfy $p^* \cdot y^* = 0$. (Because "inverse demand" is continuous near y^* , and the aggregate productions in the sequence of Cournot equilibria converge to y^* , if $p^* \cdot y^* > 0$ then, for small α , some feasible action for a firm in $E(\alpha)$

would earn strictly positive profit at the Cournot equilibrium despite the price change due to entry by a single firm. Hence all firms should be active. Similarly, if $p^* \cdot y^* < 0$ then some active firms in the Cournot equilibria of $E(\alpha)$ make a loss, and should exit. If $p^* \cdot y^* = 0$ but $p^* \cdot y > 0$ for some y in the aggregate production set then again some firms could not have been maximizing in $E(\alpha)$.) By an interchangeability lemma⁶ (see Koopmans 1957, p. 13) adjusted for the fact that in the limit there is a continuum of firms, any decomposition of y^* into feasible actions for the individual infinitesimal firms in $E(0)$ is such that all firms' actions must be profit maximizing over their production sets relative to prices p^* . Thus the actions of firms are as if they are price takers in equilibrium, and an equilibrium of the perfectly competitive sequence is an ADM equilibrium of the limit economy $E(0)$.

A slight modification of our example demonstrates the differences between the requirement that in the limit firms are unable to influence price, and the assumption of price-taking behavior. The equilibria of the perfectly competitive sequence must satisfy an additional condition, (weak) DSD. The DSD condition is necessary to ensure equilibrium in the entry decision. As α converges to zero, in the sequence of economies $[E(\alpha)]$ firms become arbitrarily small relative to the market and thus have arbitrarily small impact on prices. Therefore, any production plan y in αY with $p^* \cdot y < 0$ would not (for α sufficiently small) be able to change price enough to make a non-negative profit. Because $\max p^* \cdot y = p^* \cdot$

⁶ The interchangeability lemma of Koopmans states that if one maximizes separately a linear functional on two sets A and B then its maximum value on $A + B$ is simply the sum of the previous maximums. In less mathematical terms it states that centralized planning yields the same results as decentralized planning.

$y^* = 0$, no actions αy in αY with $p^* \cdot y > 0$ are available. In our example, when an inactive firm becomes active it changes price by approximately $\alpha[\partial F/\partial y(y)](-1, 1)'$ where $[\partial F/\partial y(y)]$ is the 2×2 matrix of partial derivatives. Because an active firm produces $\alpha(-1, 1)$, the entrant's profit minus the incumbent's profit before this additional entry is approximately $\alpha^2(-1, 1)[\partial F/\partial y(y)](-1, 1)'$. For the case of n commodities, the expression $\alpha^2 y'[\partial F/\partial y(y^*)]y$ is (approximately) the profit differential (above the profit made by an active firm before this additional entry) available to an inactive firm by switching to αy in αY with $p^* \cdot y = 0$ in the $E(\alpha)$ equilibrium. Weak DSD requires that this profit differential be nonpositive. When weak DSD fails, inactive firms could not be profit maximizing for α sufficiently small. Thus firms would want to enter in $E(\alpha)$, and y^* could not be a limit point of any sequence of equilibria of $E(\alpha)$ relative to F .

The DSD requirement, a static stability condition, is similar in spirit to Hicksian perfect stability (John Hicks 1939). Each considers changes in a single "market" at a time. Hicksian perfect stability requires that a fall in the price of a single commodity make demand exceed supply for that commodity (with or without other prices adjusting to clear other markets). The DSD condition applies to a change in the number of active firms of a particular type, with the corresponding change in aggregate production being a simultaneous change in several input and output commodities. Prices adjust to clear all markets given the new aggregate production. DSD requires that the profit for firms declines as more firms enter. Static equilibrium of the perfectly competitive sequence requires DSD.

We can demonstrate the consequences of failure of weak DSD in a slightly modified version of our example. Consider an example in which consumer A owns one-

fourth rather than three-fourths of each firm. For some aggregate production more than one price vector would clear the market, so the "inverse demand" F must be a selection from these prices. In particular let us examine the ADM equilibrium $p^* = (1/2, 1/2)$, $y^* = (-7/6, 7/6)$ which is unchanged because there are zero profits in that equilibrium. Taking the "inverse demand" with $F[(-7/6, 7/6)] = (1/2, 1/2)$ and which is continuous near the ADM equilibrium y^* , we obtain $F[(-t, t)] = [(16 - 13t)/(4 - 2t), (11t - 12)/(4 - 2t)]$ for $12/11 \leq t \leq 16/13$. Notice that $p^* = (1/2, 1/2)$, $y^* = (-7/6, 7/6)$ cannot be an equilibrium for the perfectly competitive sequence $[E(\alpha)]$: No Cournot equilibrium for any small α has aggregate production corresponding to t near $7/6$. Such a Cournot equilibrium would require the number of active firms, N , to be between $12/11\alpha$ and $16/13\alpha$. In that region each active firm earns $\alpha(12N\alpha - 14)/(2 - N\alpha)$, which is negative for $N < 7/6\alpha$. For $N \geq 7/6\alpha$, by engaging in production, an inactive firm changes from zero to strictly positive profit. Cournot equilibria cannot exist near $p^* = (1/2, 1/2)$, $y^* = (-7/6, 7/6)$ for any small α because weak DSD fails. The ADM equilibrium for $E(0)$ is not an equilibrium for the perfectly competitive sequence $[E(\alpha)]$.

Prices give the wrong entry signals in this example because of the general equilibrium income effects in $E(\alpha)$. The entry of an additional firm will result in a lower price for labor relative to food yielding profit for the entering firm. The necessary additional labor is obtained by lowering the wage. Because A owns only a small fraction of each firm, the reduction in the value of his leisure endowment (as labor) dominates his extra dividend (all active firms have strictly greater profit after the entry of an additional firm) and his income falls. Thus he reduces his demand for both leisure and food equally. On the other hand B owns a

large fraction of each firm, and his larger dividend dominates the reduction in value of his leisure endowment. Consumer *B* receives a larger income and demands both more leisure and more food, but in the ratio 1:2. The extra labor needed for production by the entrant and to compensate for reduced labor by *B* comes from *A*. *B* consumes the extra food produced and the extra food available because of the reduced demand by *A*. Though each consumer and firm is well behaved in a partial equilibrium sense, the general equilibrium income effects lead to an analog of upward sloping demand providing wrong entry signals.

The second welfare theorem is a more difficult theorem in our context. According to the ADM second welfare theorem, under suitable assumptions, every Pareto efficient allocation can be supported as an ADM equilibrium by redistributing wealth; however, not every ADM equilibrium of the limit economy $E(0)$ is an equilibrium of the perfectly competitive sequence $[E(\alpha)]$. In our context we must redistribute initial endowments and ownership shares so that prices give correct entry signals (DSD holds). Otherwise, entry and exit might not cease near the Pareto efficient allocation, and therefore that allocation would not be a limit of Cournot equilibria of $E(\alpha)$, that is, an equilibrium of the perfectly competitive sequence $[E(\alpha)]$.

Despite the extra difficulties imposed by the requirement that prices give correct entry signals, it remains true that under rather general conditions (such as no externalities) a Pareto efficient allocation can be supported as an equilibrium of a perfectly competitive sequence. To do so, the redistribution of endowments and ownership shares must not only generate the required wealth level for each consumer but also ensure that prices give correct entry signals.

Proposition. For every Pareto efficient

allocation of the perfectly competitive sequence $[E(\alpha)]$, there exists a redistribution of ownership and initial endowments so that this allocation is a perfectly competitive equilibrium for the sequence $[E'(\alpha)]$ obtained from $[E(\alpha)]$ by the redistribution.

We can demonstrate this result in terms of our example. The first step is to find all Pareto efficient allocations. Set a utility level \bar{u} for consumer *A*. Maximize the utility of *B* subject to the constraints that the leisure-food allocation to *A* yields utility level at least \bar{u} , and the allocation to *A* and *B* is feasible given their aggregate initial endowment and the constant returns to scale technology of the aggregate production set of $E(0)$. Vary the utility level assigned to consumer *A* to trace out all Pareto efficient allocations.

By the nature of consumer *A*'s preferences (recall Figure 8), his utility depends on the minimum of the amounts of leisure and food he obtains. If his allocation has different amounts of leisure and food, then the excess amount of one above the other is wasted. Because that excess added to *B*'s bundle might increase the utility of consumer *B*, it should be clear that for this special example we can fix consumer *A*'s bundle, with equal amounts of leisure and food, rather than fixing his utility level. If *A* receives bundle $(1 - d, 1 - d)$, then a total of $2 - 2d$ units of leisure are used (including the $1 - d$ units to produce the food consumed by *A*) so $2d$ units of leisure remain. The problem is to maximize *B*'s utility given those $2d$ units of leisure and the technology that turns labor into food in a 1:1 ratio. Any bundle $(2d - f, f)$ with f between zero and $2d$ can be assigned to *B*, and the problem resembles a standard partial equilibrium consumer choice problem (see Figure 10) with solution $(l, f) = (2d/3, 4d/3)$. As d varies be-

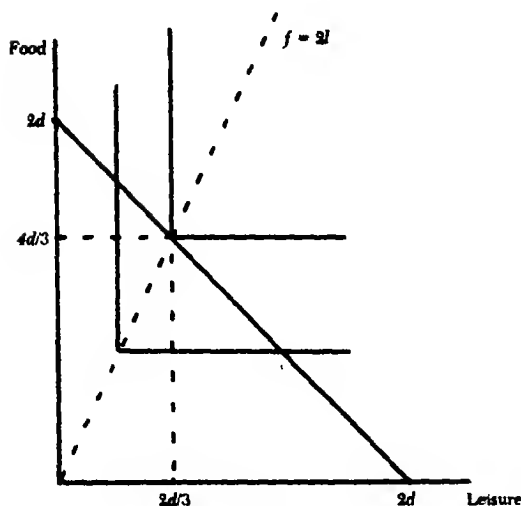


Figure 10.

tween zero and one we trace out all Pareto efficient allocations, with $d = 0$ corresponding to B 's receiving nothing, and $d = 1$ corresponding to A 's receiving nothing. Observe that as d varies, the aggregate production $(-1 - d/3, 1 + d/3)$ also varies.

With constant returns to scale technology, every ADM equilibrium will have zero profit and prices $p^* = (1/2, 1/2)$. Thus the Pareto efficient allocations can be supported as ADM equilibrium of $E(0)$ only by assigning ownership of $2 - 2d$ units of the aggregate leisure endowment to A and the remaining $2d$ units to B . This generates the required wealth levels so that each consumer can purchase the appropriate bundle with prices $(1/2, 1/2)$. The ownership share of firms is irrelevant for the ADM equilibria.

To support these Pareto efficient allocations as equilibria of a perfectly competitive sequence $[E'(\alpha)]$ we must also assign ownership of $2 - 2d$ units of the aggregate leisure endowment to A and $2d$ units to B in order to generate appropriate wealth levels. However, we must also assign the ownership share of the firms so that prices give the correct entry signals in $E(\alpha)$. The equilibrium corresponding to d must have aggregate pro-

duction $(-1 - d/3, 1 + d/3)$ and prices $p^* = (1/2, 1/2)$. Solving for the "inverse demand" selection F which is continuous near $(-1 - d/3, 1 + d/3)$ and satisfies $F[(-1 - d/3, 1 + d/3)] = (1/2, 1/2)$ we obtain

$$F[(-t, t)] = [(3t + \theta t - 4)/(2d + 2\theta t - 2), (2d + \theta t - 3t + 2)/(2d + 2\theta t - 2)]$$

for t near $1 + d/3$ where θ is the fraction of each firm owned by consumer A . In $E(\alpha)$, when aggregate output is near $(-1 - d/3, 1 + d/3)$ the entry of an additional firm changes the profit of each active firm by approximately $(-\alpha, \alpha) \cdot \partial F / \partial t [(-1 - d/3, 1 + d/3)] \alpha = -9\alpha^2 / (\theta d + 3\theta + 3d - 3)$ (t changes by α when a firm enters) which must be negative for DSD to hold. To give correct entry signals, we must redistribute ownership shares so that consumer A owns fraction $\theta > 3(1 - d)/(d + 3)$ of each firm. This is possible for each Pareto efficient allocation corresponding to a d value greater than zero. That this can be done in general depends on a revealed preference argument.⁷

It is important to observe that our version of the second welfare theorem requires more flexibility of transfers than the corresponding ADM result (Debreu 1959, p. 95). In that theory all of the required redistribution can be achieved by means of a single commodity, which may be thought of as "government wealth transfer." Here more than a single commodity may need to be redistributed because the allocation of all of the endowments is important, not just the purchasing power. Leonid Hurwicz (1959) refers to the property that every

⁷ At $d = 0$ we hit the constraint $\theta \leq 1$. With $d = 0$ and $\theta = 1$ we have essentially a one-person economy; consumer A owns all the aggregate endowment and all of the firms. Because of the kink in the indifference curves in our special example, F cannot be made continuous near $(-1, 1)$ for this case. Thus in this case there is a Pareto efficient allocation that cannot be achieved as a perfectly competitive equilibrium of a sequence $[E'(\alpha)]$; however, this is an artifact of the fact that preferences are not differentiable.

optimum is an equilibrium (after redistribution) as "unbiasedness." Our analysis suggests a bias of the competitive mechanism beyond that which government transfers can correct. This bias can be corrected, but the correction in general requires more than the redistribution of a single commodity. From the viewpoint presented here, the competitive mechanism has the bias that it can seek out only those optima that, with the means of transfer at hand, give the necessary entry signals.

VI. Dynamics

Marshall and Walras examined a long-run equilibrium in which all factors vary freely and "flow toward that branch of production" where they can realize profits. In the short run the returns to fixed factors do not necessarily equalize. At each moment, prices clear markets, but these prices reflect only the relative scarcity of the variable factors. Walras described the process from which these prices derive by a *tâtonnement*.

In each $E(\alpha)$ firms correctly perceive the prices, $F(y)$, that will prevail given any aggregate production y . Thus our analysis presupposes an anticipated adjustment of prices to clear markets, a *tâtonnement* for the exchange economy generated by a fixed production vector y . In each Cournot equilibrium firms anticipate that the price vector $F(y)$ will result from production y . At the equilibrium the prevailing price is the right price; that is, it equates supply and demand. Thus, no firm actually changes output in an equilibrium. We could have assumed that firms formed a subjective $F(y)$, but we required that $F(y)$ actually clear markets. For our model of dynamics we assume that the adjustment of prices to clear markets is instantaneous relative to the speed at which firms are able to change production levels.

Following the standard Marshallian

framework, we next consider the quantity adjustments of a fixed number of active firms to achieve a short-run equilibrium. In $E(\alpha)$ we assume a continuous Cournot dynamics. Assuming all other firms' outputs are fixed, each active firm changes its output continuously. In the limit economy $E(0)$, each firm is infinitesimal and this dynamics agrees with that generated by firms viewing price as fixed. In both $E(0)$ and $E(\alpha)$ the firms do not account for the adjustments of other firms or the changing of price over time. We prohibit exit in the short run, so that an active firm cannot produce zero. It must produce from the nonzero component of its production set (e.g., some inputs may be fixed in the short run so that even if all outputs are zero some inputs are used). If F is continuously differentiable and α is small, then the firm has little effect on price. Thus the incentives and behavior of the firm in the short-run dynamic for $E(\alpha)$ "converge to" that in the short-run dynamic for $E(0)$.

We build a bridge between the short run and the long run in the following manner. For concreteness, let us refer to the fixed factor as entrepreneurship. After each short-run adjustment we assume that entrepreneurship flows toward higher profits; that is, the number of active firms in each industry changes because of their profitability. Following such a period of factor movement, a new short-run equilibrium arises with associated prices, which lead to new incentives for factors to move, and so on. From this standpoint the *tâtonnement* occurs quickly relative to the short-run quantity adjustment of firms, which in turn takes place faster than the entry and exit adjustment of the entrepreneurial factor. As in the short-run adjustment, in $E(\alpha)$, recognizing only their own effect on price, firms enter or leave, so again, in $E(0)$ this entry dynamic agrees with that generated by viewing price as fixed. In both the short and long run, firms behave

myopically. The entry-exit decision is a choice of production set αY or $\{0\}$ (recall Figure 9). If F is continuously differentiable and α is small, then the firm's decision has little effect on price. Thus the incentives and behavior of the firm in the long-run dynamic for $E(\alpha)$ "converge to" that in the long-run dynamic for $E(0)$.

The DSD condition suggests a dynamic theory of convergence to the long-run equilibrium, in which the realignment of the entrepreneurial factor plays a significant role. Because DSD is a necessary condition for equilibrium of the perfectly competitive sequence $[E(\alpha)]$, no infinitesimal firm in $E(0)$ can enter with positive profit at an equilibrium. However, we can conceive of a model where out of a long-run equilibrium the entry and exit of firms in a sector is proportional to the returns to the entrepreneurial factor available there. This leads us to consider the stability of the equilibrium introduced in the previous sections. It relates to the questions of whether returns to the homogeneous entrepreneurial factors tend to equalize and whether myopic profit-seeking behavior moves an economy toward a Pareto optimum. In addition, it is relevant to the viability of a planning procedure in which central planners increase production in the most profitable sectors.

Our previous argument that when α is small, both the short- and long-run dynamics in $E(\alpha)$ will be similar to the dynamics in $E(0)$ assures us that we lose no generality by examining $E(0)$ alone. Hence, for simplicity we will discuss the dynamics in terms of the limit economy $E(0)$. Our three stages of dynamics are as follows:

1. instantaneous adjustment of prices to clear markets given any aggregate production y ;
2. output adjustment by a fixed number (mass) of firms, each viewing price as fixed at each instant, to

reach a short-run equilibrium; and

3. entry and exit at a rate proportional to the (firm) profit levels in each industry to reach a long-run equilibrium.

The partial equilibrium market $M(0)$ used in Section III adequately illustrates the dynamics that we have in mind. We add to the hypotheses from that section the condition that F is nonincreasing and there exists a unique y^* such that $F(y^*) = C(1)$. In this case there is a unique equilibrium.

Introduction of the dynamics is as follows. For each aggregate output y , $F(y)$ gives market-clearing prices, the adjustment process of which is stable because F is nonincreasing. In the short run an active firm must produce a positive quantity whether or not the positive profit-maximizing action yields positive profit. Each active firm increases output whenever the current price exceeds the marginal cost at the current output level and decreases output when current marginal cost exceeds price. This adjustment is also stable because F is nonincreasing and all firms have nondecreasing marginal cost. For each mass of active firms μ , the short-run equilibrium price associated with μ , $p(\mu)$, is determined as follows:

1. Supply, $S[p(\mu)]$, is the integral of the profit-maximizing actions of the μ active firms at price $p(\mu)$, and
2. $F[S(p(\mu))] = p(\mu)$; that is, the inverse demand of supply at $p(\mu)$ is $p(\mu)$, or short-run supply equals demand at $p(\mu)$.

Let $\pi(\mu)$ denote the profit of each active firm when there are μ active firms in short-run equilibrium. If DSD holds, then a mass of active firms μ less than (greater than) the mass of active firms in the equilibrium of the perfectly competitive sequence receives positive (negative) profit. Thus in this case the long-

run equilibrium is globally stable under the long-run adjustment process: $d\mu/dt = \pi(\mu)$. Let us pause to interpret this. Suppose that we start with the initial mass of active firms $\mu(0)$. The prices, $p[\mu(0)]$, provide signals for entry. Over time the mass of active firms changes, inducing a continuum of short-run equilibria. The mass of active firms adjusts toward the final equilibrium at which firms earn zero profits and produce at efficient scale.

To examine these ideas in more detail we return to our original general equilibrium example. Recall consumer A's ownership share of firms is θ . For $\theta > \frac{3}{4}$ there is a unique equilibrium for $[E(\alpha)]$, the unique ADM equilibrium of $E(0)$, and DSD is satisfied. For any initial mass of active firms that leaves consumers in their consumption sets when each active firm produces at the efficient point $(-1, 1)$, the dynamics defined by $d\mu/dt = \pi(\mu)$ converge to the unique equilibrium $\mu^* = \frac{1}{4}$. On the other hand, if $\theta < \frac{3}{4}$, then the unique ADM equilibrium remains $\mu^* = \frac{1}{4}$, but this allocation is not even locally stable. It is not locally stable for either the first-stage tâtonnement or for the third-stage entry dynamic using the "inverse demand" given in Section V. See Lars Svensson (1984).

The example at hand lends itself to a planning interpretation. Suppose that the central authority provides licenses for opening or closing facilities, but aside from this allows prices to be flexible. In the example we start with a certain mass of licensed facilities. If $\theta > \frac{3}{4}$, then the procedure that has facilities open when profits are positive and closed when there are losses converges to the unique Pareto optimal allocation.

Let us summarize the dynamics. Prior to this section we were concerned with static analysis. We treated time in the spirit of Debreu's *Theory of Value*, by dating all commodities and opening all markets only once for the purpose of de-

ciding on "who was to deliver what to whom and on what date." In this section the analysis is dynamic and temporary equilibrium in spirit. Markets open for today's exchange. The prices determined in those markets determine profits, which induce factor movements and a different distribution of firms tomorrow. The new distribution of immobile factors makes tomorrow's prices different from today's and so profits differ, etc. In our temporary equilibrium analysis we assume that firms are myopic; they do not consider how prices will change over time. Even with such nearsightedness, for our example, when prices provide the correct entry signals and so equilibrium exists, equilibrium is globally stable. This of course provides a strong link between the existence and stability theorem, and we consider this to be very much in the spirit of both Walrasian and Marshallian analysis.

VII. Conclusion

As we have shown, with the right model it is not so difficult to travel between the world of the general equilibrium theorist and the Marshallian, partial equilibrium analyst. Furthermore, there are substantial gains from trade! A rigorous general equilibrium framework incorporates the Marshallian model, with marginal firms and U-shaped average costs. Perfect competition pertains to markets where firms are relatively small. In this case their ability to influence price disappears and price-taking behavior results from our theory. This is because in perfectly competitive environments the production sector mimics the behavior of a manager who is unable to influence price. Notice the enhancement of the classical welfare theorems: Competition leads to the number of active firms consistent with Pareto efficiency; it does not require the assumption of convex technology for the second welfare theo-

rem (this is in part because Cournot equilibrium does not require convexity); it highlights the effects of the distribution of wealth on the entry signals conveyed by prices and so on. Finally, the assumption that profits induce entry (and losses induce exit) plays a major role in the analysis and suggests a classical but much neglected dynamics that fits well with the Marshallian vision.

Our analysis suggests that we need not be content with a general equilibrium theory that excludes marginal firms and free entry and hypothesizes price-taking behavior for firms without regard to their strategic opportunities. At the same time we need not settle for a theory of value that does not account for intermarket effects and relies on indirect measures, such as consumer and producer surplus, for its welfare economics. We should be all the more suspicious of a theory that loosely specifies behavior and equilibrium. The theory exposited here does have its special features, but it is precise, and it allows us to encompass both the Marshallian framework and the classical welfare theorems. With this theory less compromise between descriptive relevance and mathematical precision is required, and as a result there should be better communication between the "highbrow" and the "bread and butter" theorists.

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Book Reviews

000 General Economics; Theory; History; Systems

010 GENERAL ECONOMICS

The economic mind: The social psychology of economic behavior. By ADRIAN FURNHAM AND ALAN LEWIS. New York: St. Martin's Press, 1986. Pp. xii, 292. \$35.00. ISBN 0-312-23405-8. JEL 86-0635

Economists are imperialists by nature. We view the rational choice model as the uniquely correct way to explain and interpret human behavior, and we apply it without apology to questions once thought the exclusive province of other disciplines. Equally, we are disinclined to view facts and theories from other disciplines as relevant for economic behavior.

This posture has been costly. For while the rational choice model has proven useful in countless applications, there is extensive evidence that its predictions often fail. Many of its failures are systematic, not random, and psychologists have played a major role in calling our attention to them. In one experiment, Daniel Kahneman and Amos Tversky tell a group of people to imagine that, having earlier purchased theater tickets for \$10, they arrive at the theater only to discover they have lost them. Members of a second group are told to picture themselves arriving just before the performance to buy their tickets when they find that they have each lost \$10 from their wallets. People in both groups are then asked whether they will continue with their plans to attend the performance. In the rational choice model, the forces governing this decision are the same for both groups. Losing a \$10 ticket should have precisely the same effect as losing a \$10 bill. And yet, in repeated trials, most people in the first group say they would not attend the performance, while an overwhelming majority—88 percent—in the second group say they would.

Now Adrian Furnham and Alan Lewis have written *The Economic Mind*, in which they

summarize the findings of literally hundreds of studies in social psychology that bear on economic behavior. Many of the experiments they report are interesting quite apart from their possible implications for economic choices. One particular collection of studies, for example, asks people to estimate the physical size of coins of various denominations. The consistent finding is that the estimates are strongly negatively correlated with income: The poor, for whom concerns about money understandably loom large, think coins are much bigger than the rich do.

Under the heading of "Social Issues and Problems," Furnham and Lewis review studies that relate to poverty, wealth, unemployment, and the Protestant work ethic. The best of this material relates to the decline of the latter and its replacement by the so-called "wealth ethic," in which activities are valued only insofar as they augment personal wealth. Other authors have argued that moral norms, such as those prominent in the Protestant work ethic are important for solving principal-agent problems. It may be no accident, then, that economists' interest in these problems has grown with the emergence of the wealth ethic.

Furnham and Lewis review numerous studies on consumption and saving that will be useful to economists for suggesting additional control variables—especially attitudinal ones—for empirical work. The literature they cite makes a convincing case that attitudes account for a great deal of the observed variation in individual savings rates.

They also discuss gambling, a topic that has troubled proponents of the rational choice model for many decades. They cite Gilovich's provocative finding that people are much more likely to gamble when the process affords at least the illusion of personal control. Picking a number on a roulette wheel, for example, is apparently much more attractive than trying to draw a preassigned ball from an urn, even

when the expected payoffs are identical. This finding is obviously unfriendly to the rational choice model, and may help explain the Clotfelter and Cook finding (1986) that state lotteries did not succeed until they gave people a chance to pick their own numbers.

The last substantive chapter in the book, in many ways the most interesting, deals with taxation. It draws heavily on Lewis' earlier work on the subject. Among other things, it tells us what factors shape attitudes about the fairness of taxes, which people are most likely to cheat, and how people perceive the odds of getting caught.

Perhaps because the book tries to cover so much territory, there are some significant flaws, even an occasional factual error. On page 109, for example, the authors assert that reported happiness levels are not related to income in cross-section, even though numerous studies document a strong positive correlation (Easterlin 1973). And on page 176, they state that income levels are not significantly related to cross-sectional savings rates. Although some economists may still believe this, study after study has shown that savings rates rise sharply with income in cross-section (Mayer 1972). This relationship holds both for measured income and, less strongly but still significantly, for permanent income.

I am reluctant to criticize the authors on such a personal matter as writing style. But in a book that sells for \$35, it seems fair to expect the St. Martin's copy editor to have labored a little longer on paragraphs like this one from chapter three, in which Hurlock, "time concepts," and "number concepts" are mentioned for the first and last time:

Hurlock (1972) maintains that money concepts, unlike time and number concepts, tend to lag behind those of many other concepts. Many of the things Hurlock says have not been substantiated by recent research, possibly due to her selection of articles. However more recently there has been a great deal of research in this area. One theme of the earlier work which is still apparant [sic] in current research are [sic] studies on the developmental stages that children pass through in the acquisition of various economic concepts (p. 25)

There are many such paragraphs in *The Economic Mind*, and they make for slow going.

From an economist's perspective, the book's

topic coverage may seem puzzling. In describing their choice of material, Furnham and Lewis mention a distinction between "psychological economics" and "economic psychology." The former refers "to work, mainly by economists, that employs psychology to improve and expand the discipline of economics," while the latter "deals more with the extension of the examination and investigation of social behavior into the economic realm" (p. 18). The authors declare economic psychology to be the main focus of their book, which presumably explains why they give only fleeting attention to the work of "psychological economists" like Duesenberry, Leibenstein, Scitovsky, and Simon, and make no mention at all of Akerlof, Hirsch, Hirschman, Pollack, or Thaler.

But the utility of this distinction is never really made clear. Surely anyone—psychologist or economist—who has any interest in the intersection of these disciplines must want to know how psychological concepts help explain economic behavior. Why should economic psychologists be any less interested than psychological economists in what someone like George Akerlof has to say?

Economists and psychologists alike may also wonder why the authors devote such scant attention to the work of Kahneman and Tversky. Their "behavioral decision theory" pervades recent research by social psychologists in this country and has even begun to make its way into mainstream economics. And yet, in *The Economic Mind*, this work merits little more than a single page.

Like most authors, Furnham and Lewis complain that space limitations prevented them from covering much valuable material. At least some of what they did include, however, would have been better left out. More careful wielding of the editorial scalpel would have made room to discuss, say, the vast prisoner's dilemma literature, or some of the countless other studies in social psychology that bear directly on whether people pursue self-interest. For both economic psychologists and psychological economists, this would have made for a stronger book. Even so, much of the research discussed in *The Economic Mind* will prove useful for economists who are willing to question the descriptive accuracy of the rational choice model.

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020 GENERAL ECONOMIC THEORY

Superfairness: Applications and theory. By WILLIAM J. BAUMOL with contributions by DIETRICH FISCHER. Cambridge, MA and London, England: MIT Press, 1986. Pp. xi, 266. \$20.00. ISBN 0-262-02234-6. JEL 86-0977

The general concept of fairness is old but since the end of 1960 its connotation of an envy-free allocation has been the object of extensive analysis in economic theory. A merit of the concept is that it generalizes the simple rule of equal division to complex situations without making use of interpersonal utility comparisons. In the present book William Baumol applies the concept to a number of relevant policy questions, e.g., industry pricing in a multiproduct firm, public pricing, compensation for externalities and the function of an arbitrator.

The volume contains twelve chapters, some of which to a great extent stand by themselves and were previously published in various economic journals between 1969 and 1982. The general structure of the book consists of three introductory chapters, where the basic theoretical issues are presented, followed by a number of concrete examples of application.

The reader is first given an overview of the theory of fairness. The presentation is mostly elementary and often restricted to two individuals and two commodities taking advantage of the Edgeworth box. The diagrammatic analysis is sometimes heavy going but requires no complex mathematics. For the normative analysis, basic concepts such as superfairness, super-equal and Pareto optimality are introduced. Those are global concepts, but for the applications corresponding partial or local concepts are more pertinent and lead to the concepts of incremental superfairness, incremental super-

equality and Pareto improvements. There is of course a danger in the use of local concepts for analysis and later in the book one can find examples where, e.g., an incremental superfair policy may change a superfair situation to an unfair one. Even though the partial analysis is directed towards applications, it has at least in one respect a value of its own. The fairness criterion (i.e., envy-free) does not generally single out a unique state as the fair one but a final choice requires some additional distributional criterion. Here Baumol uses partial analysis to narrow the set of fair distributions by taking incremental superfair steps.

The theoretical background material concludes with some very interesting historical notes, where the reader can follow the various relationships among the early contributors to fairness theory.

The book then continues with applications. As a first point, allocation of commodities by rationing is taken up. This is a natural choice since departures from the market (or rather price) mechanism are often motivated by equity arguments. Four different rationing procedures are considered and Baumol demonstrates that equity is not necessarily the outcome. In particular, systems with salable rationing points need not be fair. An explanation is that salable points may cause a "loss of the feeling of fairness." One could also note that salable and unsalable rationing points are different "goods," which may be demanded differently by the wealthy and the nonwealthy. The chapter about rationing seems most relevant to fairness analysis and to the analysis of the trade-off between equity and efficiency.

This trade-off is also central in a chapter analyzing how victims of externalities should be compensated. The main conclusions are that any compensation is inconsistent with Pareto efficiency and that there are cases where fairness requires not only compensation but also overcompensation of the victims. The analogy with moral hazard is stressed.

Industry pricing is the subject of analysis in two chapters. More precisely, a multiproduct firm has options to set prices on its products in different ways when competition is not perfect. Cross subsidy then becomes a possibility and the question is which price configurations are unfair. Baumol examines various methods of price setting, based on incremental cost,

stand alone cost, anonymous equity and game theoretical concepts such as the core, the Shapley value and the nucleolus. Prices may be bounded within certain limits by using various cost sharing principles in combination with the Pareto principle, while the fairness criterion does not always seem to be pertinent.

Two chapters deal with public pricing. One problem is fairness of peak pricing. The analysis is primarily undertaken in terms of the Pareto principle and the pure fairness analysis is not central. The second problem deals with taxation for equality. Not even in this case is the fairness criterion pertinent; the analysis is based on ordinary social welfare functions. Since complete equality is never achieved by distortionary taxation, Baumol suggests taxation of ability instead. Such discriminatory pricing is not a practical solution but might be used in some modified form, e.g., by discrimination among broad income groups. Yet, in view of the vast taxation literature, this section about taxation does not appear very fresh to me. The fairness criterion could probably be used to evaluate different forms of taxation—taxation of labor incomes, taxation of various types of capital incomes, capital gains taxation, etc.—in a similar manner as is done in the case of industry pricing.

A more informal discussion of fairness in relation to economic illusions, divorce settlements, taxation, etc. is provided at the end of the book. A concluding chapter deals with a very interesting situation for fairness analysis. As is well known, criteria of distribution tend to exclude unfair distributions rather than select a unique fair one. A final choice may then require an arbitrator. Various arbitration procedures in pursuit of a unique fair solution are discussed. As an example of fairness application, this part of the book is most interesting.

In sum, I find this book useful as an elementary introduction to the theory of fairness, although its main contribution is the application to concrete policy situations. Parts of this material are traditional welfare analysis but issues of equity are put forward throughout the entire book, in verbal terms where formal analysis is absent. The book covers a wide range of applications and will surely inspire future research.

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Consumption behavior and the effects of government fiscal policies. By RANDALL P. MARIGER. Harvard Economic Studies series, vol. 158. Cambridge, MA and London: Harvard University Press, 1986. Pp. xi, 265. \$32.00 ISBN 0-674-18635-3.

JEL 87-0026

Responding to the intractable problem of solving for optimal consumption under uncertainty, many recent empirical tests of the life cycle hypothesis have focused exclusively on the validity of the consumer's first order equation for consumption (i.e., Hansen and Singleton 1982; Mankiw, Rotemberg, and Summers 1985). Nearly all these tests of continuous dynamic optimization have failed, leading some researchers to question the usefulness of the underlying life cycle framework. By contrast, Randall Mariger's book provides substantial new evidence "that the standard life cycle consumption model, modified to allow for liquidity constraints, explains the consumption behavior of the vast majority of families" (p. 155). This book's central contribution is the formulation and testing of a detailed, closed form consumption function, uniquely designed to study liquidity constraints. The price Mariger pays for a structural model is that he must assume certainty equivalence.

After a brief introduction, the book begins with a theoretical review of the life cycle model of consumption with zero bequests. Mariger describes a simple procedure for solving for optimal consumption if an exogenously given, time varying minimum level of wealth must be held in each period. He shows how such collateral restrictions lead to "pockets" of liquidity constraints throughout one's life; that is, to one or more multiperiod intervals in which the consumer faces a binding constraint only in the last period of each interval. Mariger argues that borrowing restrictions may commonly lead to short multiperiod horizons (as opposed to single period horizons), for example during years when a family has growing children and unusually high consumption needs, or when the family is accumulating a downpayment to purchase a consumer durable. The review concludes with a brief discussion of intergenerational altruism.

The next chapter summarizes theoretical re-

sults regarding the implications of liquidity constraints and intergenerational transfers for government fiscal policy and critiques recent empirical studies of liquidity constraints and planned bequests. Mariger argues that recent research has yielded little direct information about the nature of or quantitative importance of liquidity constraints. Previous studies, for example, are unable to identify liquidity constraints involving multiperiod horizons. Similarly, Mariger claims, little is known about bequests.

In Chapter 4, Mariger formulates his econometric life cycle model of consumption with liquidity constraints and zero bequests. Agents are assumed to maximize an isoelastic utility function modified to allow for changing family size. Future family composition is uncertain, but agents are assumed to behave as if expected family composition will be realized with certainty. Future income is nonstochastic. The real rate of return is assumed constant. The novel aspect of Mariger's model concerns the very careful and detailed specification of expected family size and characterization of minimum net worth levels that a particular family is required to hold in each period.

The subsequent two chapters describe the data, variable construction and econometric methods. Mariger utilizes an 800 observation cross section subsample of households from Dorothy Projector and Gertrude Weiss' *Survey of Financial Characteristics of Consumers, 1962-63* (Washington, DC: U.S. GPO, 1966) and estimates his model using nonlinear least squares.

The results, presented in Chapter 7, suggest that the data fit the model quite well. The findings on liquidity constraints indicate that about 10 percent of the U.S. population has a one-year horizon while another ten percent has an horizon that extends to a time when a child leaves the home. Mariger also finds evidence that household tastes may be quite heterogeneous. Another interesting prediction of Mariger's model is that households do not choose to decumulate equity in their homes/autos as they age. Mariger argues in Chapter 8 that this asset accumulation is precautionary, not altruistic. The author concludes by presenting a wide variety of specification tests which indicate that the model is fairly robust.

The remaining three chapters present the results of various simulations based on the econometric model. Simulation indicates that having two or more children is a major cause of liquidity constraints. Simulation of the partial equilibrium impact on aggregate consumption of various tax changes reinforces the conclusion that, in a perfect foresight, life cycle economy, temporary tax changes have significant lagged effects. The last set of simulations focuses on the general equilibrium reduction in steady state savings induced by a pay-as-you-go social security system, with emphasis on the effect of liquidity constraints.

Although Mariger examines the theoretical foundations of his model with great care, the most useful and original aspects of the book are empirical. In its detail, the book reveals the painstaking care taken in developing a testable consumption function, in constructing complex variables, and in checking and rechecking the model's robustness. The resulting model is quite rich in its ability to explain life cycle behavior.

The model's main difficulty concerns its tremendous informational requirements. As a result, the model cannot effectively study the behavior of consumption under uncertainty. As Mariger points out, the certainty equivalence assumption causes the level of consumption to be overestimated. Recent work by Zeldes (1985) establishes that, at least in the case of isoelastic utility, labor income uncertainty also increases the volatility of consumption to wealth changes. In some cases the deviation of actual consumption from that predicted by certainty equivalence may be dramatic. Thus, certainty equivalence also biases downward the marginal propensity to consume. In a study that focuses on marginal consumption responses to government fiscal policy, this necessary simplifying assumption constitutes a limitation of the model's predictive ability. On the other hand, direct "Euler equation" tests of consumer optimization, while not requiring a closed form for consumption, have so far shed relatively little light on the economic factors influencing consumption behavior. Mariger's approach represents a successful alternative and a refreshing change.

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Ethics and economics. Edited by ELLEN FRANKEL PAUL, JEFFREY PAUL AND FRED D. MILLER, JR. Oxford and New York: Blackwell for Bowling Green State University, Social Philosophy and Policy Center, 1985. Pp. 191. \$11.95. ISBN 0-631-14359-9. JEL 86-0355

This volume is a useful introduction to a literature mainly from the late 1970s on, which discusses the ethical background and implications of what might be called "moderately mainline" economic thought, stemming mainly from Pareto and welfare economics, somewhat interwoven with Rawlsian ethics. Amartya Sen and Alan Gibbard open the volume with discussions of the moral standing of the market and free exchange, with faint praise for the market, mainly because the alternatives seem to be worse. Reliance of the market on the institution of property, with its moral ambiguity, and the tendency of market theorists simply to assume away the distribution of property are brought out. The general conclusion seems to be that we need something beyond the market, but we are not quite sure what.

An interesting paper by David Gauthier on "Bargaining and Justice" suggests that there is a bargaining element in the development of a concept of social justice, but it does not explain very well how the bargaining is carried out. It does not discuss the importance of the widening of agendas in bargaining processes and neglects the tendency for "salient solutions," even if these are arbitrary. It also rather neglects the problem of benevolence and malevolence.

A somewhat different view is presented by John C. Harsanyi in "Rule, Utilitarianism, Equality, and Justice." He distinguishes between "rule" and "act" utilitarianism, the rules

implying some sort of social bargaining, and brings out rather well the point that some justice is the price of workability of a system and that justice cannot simply be maximized. A long paper by Jules L. Coleman on "Market Contractarianism and the Unanimity Rule" brings out some of the implications of market patterns for political life and takes a rather dim view of unanimity as always promoting the status quo. I must confess I found the argument at times rather confusing.

Alexander Rosenberg has a sharp critique of economics for just assuming preferences, a point of view with which I have long sympathized, though he does not really tackle the problem of how preferences are learned and retreats into a rather vague concept of human needs, which are very hard to define.

The book ends with three articles in more applied fields. The first is a thoughtful critique of cost-benefit analysis by David Copp, who does not, however, come to grips with the necessity for overall evaluations through some sort of valuation coefficients. The book concludes with two articles of a remarkably different character on the evaluation of human life. E. J. Mishan gives a very sophisticated—and I have to confess, to this reader, rather incomprehensible—discussion of the impossibility of evaluating human life. And Dan Usher counteracts Mishan with a thoughtful article on the necessity for evaluating human life in some way if public decisions are to be made, and he even comes out with an approximate value of some \$750,000 (p. 191), I suspect a little tongue in cheek.

The book has some claims to be the product of what it is perhaps unkind to call a "coterie of co-citation." It is a group of authors who all quote each other and not many from outside the group. But what is left out certainly suggests that there is a certain narrowness of view. The equilibrium concept, which still haunts economics, in spite of the fact that equilibrium does not exist in the real world, dominates a great deal of the thought of this volume and prevents its authors from asking some of the most important ethical questions, such as: How do we evaluate overall processes in time?

There is no mention, for instance, of the "Matthew principle"—to him that hath shall be given—which suggests a profound instability

of inequality, not only in the market but also in political life. One of the great ethical problems is how this is to be offset. The Biblical "year of jubilee" (Leviticus 25:8-17), in which all debt should be forgiven and property redistributed, is hardly a satisfactory solution, and it is doubtful whether it was ever tried, but the problem haunts us even after 3,000 years.

There is no mention of grants economics, which may be another coterie of co-citation, but is certainly relevant to this volume. The discussion of alternatives to the market is very skimpy. A suggestion of Mancur Olson that "the market economizes agreement" (see Olson, *The Logic of Collective Action*, Cambridge: Harvard U. Press, 1965), certainly an important ethical aspect of it, is not even mentioned, and one emerges from the volume with the feeling that one has not been very close to the real world.

Nevertheless, this book is a sample of a body of thought which should not be neglected which does present challenges to other bodies of thought in this area. It is, one hopes, a contribution to getting isolated bodies of thought together.

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[PAZNER, ELISHA] *Social goals and social organization: Essays in memory of Elisha Pazner*. Edited by LEONID HURWICZ, DAVID SCHMEIDLER, AND HUGO SONNENSCHNEIN. Cambridge, New York and Sydney: Cambridge University Press, 1985. Pp. xii, 365. \$39.50. ISBN 0-521-26204-6. JEL 86-0992

Elisha Pazner's work covers virtually every facet of welfare economics, from wage indexation to environmental issues. The central concern of this book is the microeconomic modeling of distributive justice, to which Pazner's contributions are original and deep.

A volume in the memory of this remarkably productive scholar is a justified, albeit risky, enterprise. The editors chose to focus on Pazner's most theoretical papers on fairness and its many definitions (the subject where he was most creative) and solicited eight surveys of the "state of the art" in the most active areas of theoretical welfare economics. Their choice of authors and subjects is impeccable. Most of the contributors have done excellent scholarly

work, producing self-contained accounts of the main definitions and results, as well as guides to the recent literature. The volume is a complete success, widely cited already and an indispensable reference for graduate teaching. In discussing the nine original papers, I put forth some criticisms based on personal taste; these do not diminish my overall enthusiasm for this unique piece of collective work, which will remain a landmark for many years.

All papers fall into the broad subjects of distributive justice or mechanism design, and some of them (by Maskin and Postlewaite) link these two themes by means of the implementation concept.

Hurwicz' introduction sets the right historical perspective to the mechanism literature (as one would expect from its inventor!) but fails to integrate the distributive justice surveys (by d'Aspremont, Kalai and Thomson-Varian), an admittedly difficult task. It seems to me this introductory paper is really another survey in addition to the eight others.

The first theme covers the notions of social welfare orderings (and collective utility functions) and their extensions to the axiomatic bargaining framework. The papers by d'Aspremont and Kalai are very well done and much needed: they update conveniently Sen's 1977 survey papers and Roth's 1979 monograph.

The second theme treats concepts of fairness in resource allocation, mainly envy-freeness and its variants. Thomson-Varian's paper is short but neat (except for the section on incentives that is covered anyway and in greater detail by Maskin and Postlewaite). It provides a clear introduction to most of Pazner's papers reprinted here. It would actually make more sense to single out this paper at the outset of Part 2.

The third and principal theme is the strategic analysis of collective decision mechanisms. On this, the volume constitutes the most accurate reference to date. Four of the surveys (by Muller-Satterthwaite, Maskin, Myerson and Milgrom) are entirely self-contained, giving precise definitions and statements of theorems immediately usable in class. The two papers by Hurwicz and Postlewaite discuss the important issues and provide a guided tour of the literature; together they provide an excellent reading list, but will not help the novice much.

The four remaining papers are all very solid teaching material. The Muller-Satterthwaite paper provides a simple proof (due to Feldman) of the basic Gibbard and Satterthwaite result. The section on restrictive domains may be too long and too hard to read: some of the most technical results could easily be deleted. Maskin's survey on Nash implementation fills the vacuum left by his never published 1977 working paper. Myerson's exposition of Bayesian incentive compatibility is among the first systematic pieces on the subject. Finally Milgrom's survey, although written in 1981 (a similar survey by Weber appeared in the 1985 volume on Fair Allocation of the AMS), gives a fair account of one of the most successful applications of the Bayesian approach.

One final criticism concerns the title: it is vague and not very informative. But I am confident that it will not deter anyone from using and citing this outstanding volume.

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Social choice and democracy. By NORMAN J. SCHOFIELD. New York, Berlin and Tokyo: Springer, 1985. Pp. xvii, 321. DM 120.-. ISBN 0-387-15604-6. JEL 86-0667

Most economists are familiar with the idea that, if the set of alternatives can be viewed as a line (one-dimensional), if preferences are single-peaked and if social preferences are calculated by simple majority voting, then the social choice is easily determined: the social ordering has no cycles and there is an alternative (the median peak) that is at the top of this ordering. Competing political parties will then move us to this median peak alternative.

Less well known is how badly all this breaks down when the space of alternatives is "bigger." Suppose the set of alternatives is a plane (two-dimensional) and that simple majority vote is still the social choice procedure. It is possible to find very well-behaved preferences for which there is no top-most alternative in the social ordering. Now by itself, this need not be too serious. If there were only a cycle among the top three alternatives (the minimum number for cycling), and if these three were very similar and also unanimously preferred to all the other alternatives, we might be satisfied by an arbitrary

choice from among the top three. Unfortunately, we can find well-behaved preferences in this two-dimensional context so as to cause much more serious cycling. In fact, we can find such preferences so that *complete* cycling or "chaos" occurs: given any two alternatives, a and b , there exists a finite sequence of alternatives, x_1, x_2, \dots, x_n such that $a = x_1$ loses to x_2 , which loses to x_3, \dots , which loses to $x_n = b$. There would also be a sequence from b back to a , completing a cycle. Given the preferences and an initial alternative, a clever agenda setter who could lay out the sequence x_1, x_2, \dots, x_n of votes, could manipulate the group to any choice anywhere in the plane.

What is unfortunate for making social choices, however, is fortunate for social choice theorists, who find from that a richer set of possibilities for analysis. What has been studied so far are differences between results on "small" alternative spaces and results on "large" spaces. With simple majority voting, there is a sharp boundary; for dimension one, no cycling occurs while for dimensions above this number, there are preferences where global cycling or chaos occurs. This result was first obtained by McKelvey. His results were soon extended to more general social choice procedures called q -rules. Suppose with n voters there is a number, $q < n$, such that coalitions of size q or larger always win. Then Greenberg has shown that there is an important dividing line between small and large spaces of alternatives given by

$$v = \text{the smallest integer not exceeding } 1 + [n/(n - q)].$$

If the dimension of the space of alternatives is v or less, no cycling occurs with q -rules and there exists a best alternative; if the dimension exceeds v , there will be a profile of well-behaved preferences for which the q -rule yields a cyclic ordering with no best alternative.

Within this framework, Schofield has addressed two significant ideas. First, following some work that Nakamura did for the discrete case of finitely many alternatives, Schofield has extended the analysis to an even broader class of social choice procedures, the "noncollegial" voting rules. For such rules, there is a "Nakamura number," v^* , based on the power allocated to different coalitions, that determines the boundary between small and large spaces

of alternatives. If the dimension of the alternative space is $v^* - 2$ or less, no cycling occurs and there exists a best alternative; if the dimension exceeds $v^* - 2$, there are well-behaved preferences for which the social ordering is cyclic and no best alternative exists.

The second area of work is a more detailed examination of what happens in the cases when dimensions exceed $v^* - 2$. For example, when the dimension exceeds $v^* - 1$, more complicated cycling may occur than can occur in the $v^* - 1$ case.

In *Social Choice and Democracy*, Schofield brings all this work together in a unified way and relates it to similar work in the case of finitely many alternatives. He presents all the technical apparatus (drawn from general topology, algebraic topology and analysis) required for him to state results with precision and to provide complete rigorous proofs. This is very valuable work, for which we must be thankful.

However, for the general reader, who may find these conclusions both interesting and important (e.g., as a warning about the use of the median voter approach in political economy), this book will prove very frustrating. Almost no allowance is made for those readers interested in the issues but unwilling to make an enormous effort to read a text drawing on difficult mathematics, presented in a relentless definition-lemma-theorem-proof-corollary format, where there is little motivation and few illustrative examples. Precision is confused with clarity throughout.

There is a lack of appreciation for explaining the value of generalizations that come at a high cost in complexity. (For example, the general reader needs some guidance on how significant is the class of noncollegial voting rules that are not also q -rules, and so on how important Schofield's extension is.) There is a pervasive need for concrete illustrative examples. (How many readers will be able to separate, without examples, "upper-hemi-continuity," "lower-hemi-continuity," "upper-demi-continuity" and "lower-demi-continuity"?) Motivation is often absent or oddly placed. ("Structural stability," presented and analyzed in Ch. 6 is shown to be an important idea for democratic theory in Ch. 8.)

Admittedly, my preference for mixing in motivation, illustrative concrete examples and sim-

plicity is a matter of taste. But I think it is a widely enough shared taste to significantly and unfortunately restrict the audience for Schofield's ideas almost to those readers already familiar with his articles. I am reminded of a disagreement among the mathematicians L. J. Mordell and Serge Lang. Reviewing Lang's *Diophantine Geometry*, Mordell wrote,

A general question that immediately suggests itself to the reader is what object an author has in mind when writing a book. Some have the true teacher's spirit or even a missionary spirit, wishing to introduce their subject to a wide circle of readers in the most attractive way. Such an author's treatment is essentially self-contained, the presentation is made as simple and complete as possible, and there is no undue generalization that would tend to make unnecessarily difficult the comprehension of the simpler and really fundamental cases; he is painstaking in his efforts to save the reader unnecessary and troublesome effort. When the subject makes undue demands on the reader, the author tries to give the reader some idea of the proof in easily understood language. (p. 493)

These are not criteria under which Schofield fares well.

Six years after Mordell's review of Lang's book appeared, the same journal had Lang review Mordell's *Diophantine Equations*. Lang defended his earlier work noting,

I see no reason why it should be prohibited to write very advanced monographs, presupposing substantial knowledge in some fields, and thus allowing certain expositions at a level which may be appreciated only by a few, but achieves a certain coherence which would not otherwise be possible. (p. 1234)

But Mordell has the better economic analysis: if the audience is very small, and if better exposition, motivation and illustration could, with relatively little cost in effort, have dramatically increased the audience to include many who would be interested, a loss has resulted. Mordell ended his earlier review with remarks that mirror my response to *Social Choice and Democracy*:

Lang assumes his readers are as knowledgeable as he is and can grapple with the subject with the same ease that he does. Even if they could, Lang's style is not such as to make matters easy for them. . . . Further thought and care about his book, before publication, would have been well worthwhile. Those who can under-

stand the book will be indebted to him for having brought together in one volume the important results contained in it. How much greater thanks he would have earned if the book had been written in such a way that more of it could have been more easily comprehended by a larger class of readers! (p. 498)

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Production, income and welfare: The search for an optimal social order. By JAN TINBERGEN. Lincoln and London: University of Nebraska Press; Brighton, Eng.: Harvester Press, Wheatsheaf Books, 1985. Pp. xiii, 210. \$21.95. ISBN 0-8032-4412-6. JEL 85-0929

Rather rarely do economists state their ideals so frankly or make them so ambitious. These essays, which are all republications or translations of articles in danger of being lost, include a manifesto for an optimal world order, no less, particularly as regards the world economy. They will probably receive more attention from readers of this *Journal* who are also members of the European rather than of the American Economic Association. A pity, for as Kolm (1972, p. 17) observed, concerning Tinbergen's (1957) address to the A.E.A. meetings:

It is symptomatic that the presentation of its marvellous text to a public of American economists should have been 'a flop,' as theatre people say . . . that confirms what we always have thought: Americans are not interested in social justice, at least in the sense we mean in France (Léon Walras wrote earlier, "Justice is a Greco-Latin and French concept"); in particular, the notion of equality of outcomes—rather than of opportunities—has many fewer attractions for them than for us.

Another pity, one might add, is that Kolm's book *Justice et équité* remains untranslated, and that the above is my own imperfect effort.

Optimizing the social order implies maximizing a Bergson social welfare function subject to physical feasibility constraints. Part I accordingly treats production, especially some problems of estimating production functions, as well as "counterproduction" and various kinds of col-

lective or "part-collective" goods. "Counterproduction" is particularly interesting. When the estimated exponent of labor in a Cobb-Douglas production function is negative, this father of econometrics not only reports the result, but goes on to find a theory powerful enough to support almost any negative estimate of a marginal product. Unfortunately we are not told how the theory developed in one essay is meant to apply to the following empirical results which are reported in an earlier essay. It seems that those states in the U.S. in 1959, and those prefectures in Japan in 1975, which had more farm workers, also had significantly lower outputs, on average, when other inputs are held constant. For similar reasons, blue-collar workers in the U.S. appear to have had negative marginal products, and managers and professionals insignificant marginal products in both countries. These may not be negative *physical* marginal products of course, but may reflect that (possibly quite justified) deviations from first-best efficient production are more important in areas with more low paid farm or blue-collar workers. Such "distortions" are just one of the many forms of "counterproduction" which receive attention.

Part II's essays respond to criticisms of Tinbergen's (1975) earlier model of income formation and elaborate it further. Occupational status is included because it measures the effort needed to perform in (or qualify for?) one's position. It explains some of the variations in incomes. It is also claimed to help in explaining schooling, but I do not see how we know the results do not arise because schooling explains occupation. Another essay discusses Kolm's (1977) view that chief executives' high incomes are inexplicable without some degree of group monopoly power. Finally in this part, Essay 10 presents two approaches to measuring welfare with interpersonal comparisons. The first is the "indirect" or "revealed utility" approach based on compensating earnings differentials. Individuals are supposed to be free to choose their job characteristics—measured by required education and experience—which supposedly makes earnings differences which compensate for such choices equitable, while other differences are not. Even more questionable is the second approach based on several Dutch compatriots' extensive work calibrating welfare

functions on the basis of responses to questions rather like, "What level of income would make you feel (very) well/badly off?", with nine different gradations. This work has always puzzled me because I have little idea what the question is really supposed to mean, let alone the answers. Why not ask directly how much people would value redistribution of income, perhaps along lines suggested by Yaari and Bar-Hillel (1984)? Part III, on welfare functions, then actually provides more of a valuable discussion of what affects social welfare—income distribution, counterproduction, matching of workers' jobs to their capabilities, etc.—than it does of procedures for measurement.

Finally, in Part IV comes the optimal social order, with a detailed characterization of a first-best welfare optimum, including how levels of educational attainment should depend on innate ability, and the allocation of workers to jobs, as well as the usual efficient allocation of goods and services and the optimal distribution of income. Real flesh and blood, and numerical estimates, are added to the efficiency theorems of first-best, full information welfare economics, which are customarily rather lifeless. And there lies the problem—the lack of information needed to implement such optimal policies. As we read on page 40:

The dream of the perfect economy occupied many and had an enormous political impact. The attempts to implement it gradually showed its dream-like character. Even the economies of very small nations are too large . . . to observe all activities from one central point . . . Thus certain forms of counterproduction have to be accepted.

This was meant, I think, to apply to centrally planned economics, but I fear it also applies to Tinbergen's first-best dream of an optimal social order. Earlier, in Tinbergen (1975, p. 121), the problems of administering theoretically ideal taxes on (innate) capability, as a lump-sum tax, were recognized, if only briefly. Now they are not. But the fault is with welfare economics generally, which is only just beginning to come to grips with the theoretical and practical problems posed by privacy of certain

kinds of information that is needed for instituting first-best lump-sum taxes and transfers. Such privacy forces one to recognize "incentive constraints" which make most first-best allocations quite unattainable, and to see markets as constraints also, making it harder to achieve desirable second-best "distortions" in the economy.

Too many policy economists lose patience with irrelevant first-best theory and miss some improvements which are feasible, even if they fall far short of the unattainable first-best. They and their political masters might do us all a favor by sharing Tinbergen's dream of an optimal social order, even if they should also recognize why only second-best policies are feasible. We should all *hope* that future generations find the present chaos as incomprehensible as we find the theories of those mediaeval physicians who apparently believed that serious diseases could be cured by blood-letting.

Meanwhile, I hope we see more such books by Tinbergen, although one might prefer an extensive and reflective introduction that really relates the essays to each other, to the very brief foreward to this volume. And, future revisits to the optimal order (after Tinbergen, 1987) could pay more attention to problems of information.

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030 HISTORY OF ECONOMIC THOUGHT;
METHODOLOGY

Foundations of economics: Structures of inquiry and economic theory. Edited by MAURO BARANZINI AND ROBERTO SCAZZIERI. New York and Oxford: Blackwell, 1986. Pp. x, 454. \$49.95. ISBN 0-631-14253-3.

JEL 86-0998

The fourteen papers presented here explore the conceptual foundations of orthodox theory and the dynamics of change in economic knowledge. Subtitled *Structures of Inquiry and Economic Theory*, the essays elucidate the functional relationships between content and method. The orthodox position that there is a single, optimal analytic paradigm, that all others are essentially useless or false is rejected. The book's "fundamental theme [is] coexistence of [two] distinct lines of research since the beginning of our science" (p. 65). These are the exchange-oriented and the production-oriented theories.

Following an extensive interpretive introduction by the editors, the book is divided into four parts: Part I, "Perspectives on Economics and the Dynamics of Knowledge" (John Hicks and Bernard Schmitt); Part II, "The Core and Extensions of Exchange-Oriented Theories" (Maurice Allais, Michael O. L. Bacharach, Dieter Helm and Klaus H. Hennings); Part III, "The Core and Extensions of Production-Oriented Theories" (Nicholas Georgescu-Roegen, Michael A. Landesman, Alberto Quadrio-Curzio and Krishna Bharadwaj); and Part IV, "From the Ancients to the Moderns: A Reappraisal of the Dynamics of Change in Economic Theory" (Christopher Bliss, Alberto Quadrio-Curzio and Roberto Scassieri and Luigi L. Pasinetti).

The perennial tension between the "ins" and the "outs"—in contemporary United States orthodoxy, between "Fortune's favorites" (Solow 1985), mathematical and equilibrium-oriented econometrics and socially and historically-oriented "institutionalists"—is reviewed in the editors' opening statement. "Economists often attribute the existence of disagreement within their own profession to error and incompetence, if not to fraud [to conflict between those who] know economics, and . . . those who do not" (p. 1). The contrary position developed here is that economics "like most other disci-

plines, is in fact open to a variety of points of view, many of which may lead to distinct lines of research" (p. 1). Still, a question remains concerning the extent to which—and why—one viewpoint remains dominant for an extended period of time. For over a century, the dominant position of classical "production-oriented" economics has been supplanted by "exchange-orientation." Contemporary revival of variations on the production paradigm remain outside the pale of orthodoxy. They range from post-Ricardian neo-Keynesianism to Marxist and non-Marxist institutionalism.

A "line of research" is similar to, but different from both a Kuhnian paradigm and a Lakatosian research program. It may incorporate various combinations or sequences of "paradigms and programs." Appraisal of the alternative exchange and production research lines is based on their relatively "late stage of development, when each line has already been stretched to include most of the domain of economics" (p. 31). The two lines are compared in terms of seven aspects (or "objects") of economic analysis:

the nature of commodities considered; the 'vision' of the production process; the criteria of distribution; the role of social classes; the time-framework and economic growth; the role of accumulation; the types of causal relationships. (p. 31)

In general, the exchange line (the "catalactic" approach) is short-run and reductionist; the production line (the "political economy" approach) is long-run and holistic. Arguably, "the 'truth criterion' for 'catalactic' theories is mainly aprioristic, whereas it is *a posteriori* or inductive for theories of the 'political economy' type" (p. 44).

The contributions generally reflect a "political economy" perspective. Presentation is primarily literary. The more technical articles (Allais, Georgescu-Roegen, Landesman, Quadrio-Curzio and Pasinetti) incorporate a balanced integration of literary, diagrammatic and mathematical analysis. The concluding section and the final contribution, Pasinetti on value theory, represent a link to the possibility and implications of realization of a "late classical" renewal—the reestablishment of production alongside the now-dominant exchange line—and the possibility of a renewed dominance of

"political economy." Pasinetti considers the possibility of continued revival and application of the labor theory of value following the lead of Ricardo and Sraffa. The thematic base here is consonant with the perception of contemporary economics—and capitalist economies—as in a phase of fundamental transition. Revival and progress along the "production" line would work toward filling gaps in the economics of growth and welfare—in analysis of distribution of income and wealth and the qualitative elements of the national product (Robinson 1972). The substantive tradeoff, a shift from efficiency toward equity economics, would be paralleled by a methodological rebalancing from excessive rigor to greater relevance.

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The legacy of Ricardo. Edited by GIOVANNI A. CARAVALE. Oxford and New York: Blackwell, 1985. Pp. x, 325. \$45.00. ISBN 0-631-13617-7. JEL 86-0034

The absence of a will makes it difficult for a reviewer to adjudicate the claims to Ricardo's inheritance made by the authors of the papers collected in this book; they do show that Sraffa's edition of Ricardo's *Works* has enhanced the value of the inheritance. The book opens with Mark Blaug's cautious warning against using one simple model to interpret every aspect of Ricardo's economics and closes with John Hicks' equally judicious warning about respecting the limits that Sraffa expressed concerning his own interpretation and extension of Ricardo. The other eleven papers are concerned with the "new views" (with respect to Sraffa's) of Ricardo. The editor divides these into the "neo-classical" approaches of Samuel Hollander, Carlo Casarosa, and Giacomo Costa, and those who attempt to integrate growth into Sraffa's approach: Giovanni Caravale, Domenico Tosato, Pier Luigi Porta, Annalisa Rosselli. An intervening section provides criticisms of both

from the perspective of Sraffa's approach by Pierangelo Garegnani, and Alessandro Roncaglia, who also usefully documents the similarities between the "new" views and those that were old when Sraffa's were "new." A final section deals with a problem that seems to have escaped the attention of all views, the machinery question, with Walter Eltis' presentations which also provide an interesting criticism of the new view, and Ferdinando Meacci who expands the list of Ricardo's legatees to include the neo-Austrians!

The essay by Annalisa Rosselli fits uneasily into its classification for it cuts across the contending new views, isolating what appears to be the point of contention amongst the heirs apparent: Ricardo's theory of wages. The non-expert would do well to read this directly after Blaug's essay.

The difference between the proponents of the "new" views appears to turn on the consistency of Ricardo's definition of natural wages in the "Essay on Profits" and in the *Principles*. In the former he assumed no changes in technique and constant real wages due to an equal rate of expansion of capital and population, while in the latter natural wages kept population constant. Thus the paradox: natural wages imply either a) a stationary population or b) population increasing at a rate equal to capital. If a) is accepted then the analysis of expansion is either impossible, or market wages must exceed natural wages until the stationary state. This is the Hicks-Hollander solution, which means that supply and demand determined market wages are of primary importance in all but the uninteresting stationary state. If Ricardo's insistence on the importance of natural values is to be made compatible with the analysis of growth, Caravale and Tosato (and in a slightly different way, Casarosa) argue that b) is the obligatory choice. But this contradicts Ricardo's belief that natural wages are variable, and requires an ad hoc assumption to assure the proper relation between the growth of capital and population. Rosselli's analysis suggests that neither seems to preserve the idea of natural values.

In evaluating these alternatives it seems important to note that neither the concepts nor the distinction between the natural and market wage appear explicitly in the "Essay." There Ricardo was concerned to elaborate his theory

of profits in terms of the newly popular theory of rent. Rather than developing the idea of the natural wage, he was more concerned to abstract from the effects that (technological improvement and) changes in wages due to a differential rate of growth of capital and population would have on profits because they had no systematic relation to the "natural effects" of economic expansion. Thus in order to isolate the effects of the expansion of capital, population and extension of production to inferior land, Ricardo eliminates these nonsystematic effects by making what we might now call a *ceteris paribus* assumption—that capital and population grow at rates which keep real wages stable (pp. 11–12).

There is, however, a very clear reference to what would occur if this constant real wage were doubled: the "natural limit to population would of course be much earlier" (p. 15). Here Ricardo appears to mean the stationary population which could be supported by the assumed constant real wage would be smaller because profits would be driven down to the point where accumulation ceased more quickly. This not only suggests the *Principles* definition of the natural wage, but also that he did not conceive of continuous expansion of either population or capital, that the assumption was made simply to eliminate the effect of wages about which "nothing can be positively laid down, respecting profits" (p. 23).

Thus while Ricardo certainly would not have rejected a "market" wage alternative, he clearly considered it as a sufficient but not a necessary explanation of the movement of profits. It would rather appear that as he worked on the *Principles* he realized that the increased costs of necessities due to diminishing returns, revealed in lower profits and increased rents, produced higher prices and wages that were incompatible with the assumption in his "Essay" of constant wages and prices. It also raised the possibility of differential movements in the prices of necessities and other goods, and thus the problem of explaining relative price movements as part of the argument that the rate of profit in agriculture set the general profit rate for the economy. But here we recover Sraffa's narrative of the central problem faced by Ricardo in the passage from the "Essay" to the *Principles*, and although the "corn model" does not appear to have been

absolutely necessary to its formulation, presenting it in this form certainly eases its resolution.

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The decline of capitalism. By E. A. PREOBRAZHENSKY. English edition. Translated and edited with an introduction by RICHARD B. DAY. Armonk, NY: Sharpe, [1931] 1985. Pp. lii, 205. \$30.00. ISBN 0-87332-295-9.

JEL 86-0042

Western economists probably know Preobrazhensky best as a prominent economist and state functionary on the left-wing of the Bolshevik Party during the 1920s' debates over development strategy. Although tame, relative to the unusually intense Stalinist strategies after 1928, Preobrazhensky, more than any other single individual, provided during the 1920s the economic content of the rationale for rapid, large-scale industrialization and a priority to investment in the process of "building socialism" (Preobrazhensky 1965). In the early 1920s, he had teamed with Bukharin—who was to become a major leader in the right-wing of the Party and advocate of strategies more accommodative to the peasantry and consumption (Elliott 1985)—in writing a popular book on socialism (Bukharin and Preobrazhensky 1921).

The Decline of Capitalism, is described by Richard Day as "one of the best works in Soviet economic theory" (p. ix). Although emerging out of Preobrazhensky's studies of the Soviet economy, the historical context in which he writes is that of the Western capitalist economies, their proclivities toward crises and depressions both in general and specifically during the late 1920s and early 1930s. His intellectual context is Marxist crisis theory, notably Marx' schemes of expanded reproduction. His central purpose is to examine how formal recognition of monopoly affects the classic Marxist analysis of crisis and cycle, which traditionally focused on competitive processes in Marx' works. Pre-

brazhensky roots the need for such a project in the shift from an "epoch of free competition" (prior to roughly the 1880s) and a "stage of monopolism" which has succeeded it (pp. 14-15).

Part One begins with an introductory comparative sketch of these two stages in capitalist structure. The commonality between them is market production for the purpose of profit by private producers. But the differences are also of powerful consequence. Competitive capitalism (1) is relatively "elastic" because of easy entry, thereby enhancing the robustness of cyclical expansions; (2) impels introduction of new equipment and improved technologies, which both lowers prices and forces eviction of backward firms, thereby facilitating adjustments to crises and depressions. Moreover, access to territories for new expansion is still relatively easy. Monopoly, by contrast, is much less flexible. Entry is constrained by both larger scale and monopolistic associations. Because of weaker competitive pressures, technological innovation is slower. Consequently, firms respond to reductions in demand by curtailing production rather than cutting prices (and to rising demand by raising prices to a greater extent than under free competition). In addition, the entire world has become divided, so that corporate behemoths "can only snatch from one another existing markets and spheres for the export of capital" (p. 19).

These basic ideas are extended and supplemented in the analytical core of the book, Parts Two through Four. First, in continuing his general remarks on competitive capitalism (in Ch. 2), Preobrazhensky observes that although the vigorous competition which impells reequipment and technological improvements intensifies cyclical downswings and depressions, it also, by evicting weak firms, reducing costs, and creating new markets, serves as an important basis for cyclical upturns.

Second, the tendency of monopoly to respond to falling demand by reducing output and employment is supplemented by an attempt to prevent entry of new firms in response to rising demand by expanding production by existing firms. But this requires substantial reserves of fixed capital. Thus, the "main evil of monopolism" is an "intensified thrombosis of the productive forces" (p. 33), manifested by

both higher unemployment and greater unused plant capacity throughout the business cycle.

As a consequence, Preobrazhensky continues (in Ch. 3-5), the timing and character of the cyclical process are also significantly affected. Precisely because of its proclivity toward building greater excess reserves of fixed plant capacity (instead of expanded entry by new firms), it is harder for cyclical recovery to develop into a robust, general expansion under monopoly capitalism. At the same time, however, the build-up in fixed capital reserves creates new markets and thus delays the crisis and cyclical downturn. Once the crisis does occur, as noted already, the enormous fixed capital reserves combine with diminished competitive pressure for reequipment and technological improvements, so that "economic recovery is rarely able to develop automatically into economic expansion" and "the emergence from a crisis must inevitably take longer and assume a more agonizing character" (pp. 74-75). (It should be noted parenthetically that Preobrazhensky does not characterize "the stage of monopolism" as the supersession of all competition. To the contrary, in a sophisticated discussion, he explains both that monopoly "does not and cannot eliminate competition" and that monopoly is not likely to lead to a workable "planned capitalist" economy; pp. 38 ff.)

Third, from a technical viewpoint, one of the most interesting aspects of Preobrazhensky's book is his reworking of Marx' reproduction schemes from a cyclical perspective. Although this does not go so far as the development of a formal mathematical model, notions of uneven development and cyclical process are illustrated insightfully by numerical examples in final summary comparisons (in Ch. 7 and 8) of competition and monopoly.

Remaining chapters, although less general and analytical, contain interesting commentary. Chapter 9, for example, uses the ideas developed previously to provide a characterization of the cyclical process in the United States in the late 1920s and early 1930s. Chapter 11 provides an early and provocative interpretation of fascism as a new form of state intimately connected with the shift from the era of free competition to that of monopoly capitalism.

The book is accompanied by a lengthy and very useful introduction prepared by its transla-

tor and editor, Richard Day, that situates Preobrazhensky's contributions within the setting of Marxist and Soviet economic writings on capitalist crises and cycles. Preobrazhensky's analyses are especially cogent when read against the background of interpretations of capitalism as afflicted by chronic stagnation based on underconsumption. Like Marx, he insisted in continuing to focus on cyclical models of capital accumulation, crisis, depression, recovery, and expansion, albeit modified by monopoly elements, a focus which, if anything, is more rather than less socially relevant today than in the early 1930s.

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040 ECONOMIC HISTORY

Traders, planters, and slaves: Market behavior in early English America. By DAVID W. GALENSON. Cambridge, New York and Sydney: Cambridge University Press, 1986. Pp. xiv, 230. \$34.50. ISBN 0-521-30845-3.

JEL 86-1014

David Galenson draws upon an impressive body of previously unexplored data from the records of the *Royal African Company* to support his analysis of traders, planters, and slaves in the West Indies. That is both the strength and weakness of this book. A strength because Galenson has provided an excellent analysis to go with the presentation of data; a weakness because he seldom ventures beyond the confines of the company records to the larger world in which it operated. What we have is a view—a very *economic* view—of the slave markets as seen by the company agents, captains, and planters who purchased the slaves.

Over the course of its sixty-year existence, the *Royal African Company* left a very detailed trail of its activities in the slave trade. Galenson uses two particularly valuable sets of records

for his study: the "Homeward Bound Invoice Account Books" which recorded data on the sale of more than 70,000 slaves between 1673 and 1723; and a "List of Ships and Their Voyages in the Service of the Royal African Company of England from November the 4th 1719 to 1733," which provided the details of 38 transatlantic voyages between 1720 and 1725 including information on the company's ships and their human cargoes.

The shipping data provide the basis for an econometric analysis of the mortality incurred on the infamous "middle passage." The results, however, are disappointing. After considering a number of possible influences, Galenson's regression analysis yielded only one variable—size of ship—that was considerably associated with higher mortality. It is not clear what to make of this. At the end of this chapter we are left with the rather weak assertion that there is "evidence of reasoned and systematic responses [by the company] designed to minimize the economic costs and risks" (p. 51).

Galenson next examines records of company transactions at auctions between 1673 and 1723. He presents data on slave prices and then uses this evidence to show how slave auctions were organized. The most noteworthy finding here is that the highest-quality slaves were typically sold first, and since the wealthiest planters tended to open the bidding, they got the best slaves. An interesting speculation would be that larger and wealthier planters might therefore enjoy advantages relative to smaller plantations through a higher-quality slave labor purchased at auction.

Galenson presents his most conjectural—and, I think, also his most interesting—findings when he turns to the question of planter persistence in Jamaica. Using presence at the regular slaves by the company as a guide, he constructs some indices of "persistence" among planters. In the 1670s, he argues,

Barbados had a low rate of voluntary outmigration, little higher than the rates found in a number of New England towns and villages. . . . After the 1670s in Barbados, . . . outmigration rates were considerably higher, with average annual rates generally double and often triple those found in the New England towns with the highest turnover rates. (p. 137)

Understanding this change in attitude, he feels, could provide an important clue to the eco-

economic rise and decline of the British West Indies.

In his final chapter Galenson turns to the reasons for the company's demise in 1732. It failed, he argues, in large measure because it was unable to enforce the monopoly granted by its charter. I suspect he is right, and that will warm the hearts of those who feel competitive market forces were working in the early eighteenth century. But at the same time, it points out the limited scope of Galenson's own analysis, which focuses almost exclusively on the company's activity.

One can admire, as I do, the care and ingenuity with which the empirical analysis in this book is carried out. This is the "metric" part of cliometrics at its very best. The data are critically scrutinized, the empirical tests are carefully conducted, and the results presented so as to avoid exaggerated generalizations. Yet, as I noted above, this is also the major weakness of the book. Though "clio" is first in the name of the profession, it plainly remains second in the hearts of practicing cliometricians such as Galenson. He does provide a historical backdrop to his examination of market behavior. And, among the myriad of numbers he has extracted from the company books, he also found numerous remarks by agents, captains, and company clerks to add a dash of color to his rather monochromatic quantitative picture. Still, the historical picture remains incomplete. In the final analysis that is because it is *market* phenomena, not *historical* phenomena that are the central focus of this study.

This shortcoming (and not everyone will see it as a shortcoming) aside, this book will intrigue theorists eager for new tests of their theorems, as well as quantitative historians eager for new data relating to seventeenth-century slavery. That makes it a very worthwhile effort.

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050 ECONOMIC SYSTEMS

Contributions to Islamic economic theory: A study in social economics. By MASUDUL ALAM CHOUDHURY. NY: St. Martin's Press, 1986. p. xvii, 241. \$29.95. ISBN 0-312-16881-0.

JEL 87-0059

Professor Choudhury, a very able economist indeed, has produced one of the most rigorous

and mathematically sophisticated books ever written on Islamic economics. This work, I am positive, will enhance the recent attempts by various proponents of Islamic economics whose purpose is to create a modern and scientific framework for the economic concepts of the Islamic religion. It is worth mentioning that, traditionally, very few secularly trained economists with an Islamic background—especially with the degree of sophistication in economic theory that Professor Choudhury has exhibited—have been attracted to the cause of an economics whose central issue, as Choudhury suggests, is "efficient allocation of resources in the light of a righteous community promoting the laws of God on earth" (p. 7).

His stated goal for writing this book is twofold: to introduce Islamic economics theory by utilizing various technical tools of economic science, and to argue that Islamic economics should be treated as a special case of social economics. He tries to accomplish this in four parts—altogether twelve chapters.

In the first part he proposes three major principles of Islamic economics and discusses the key policy instruments that put these principles to work. The principles include the principle of Tawheed (oneness) and brotherhood, which leads to "equality"; that of proportionality of work and its compensation; and that of distributional equity. The key policy instruments are: the abolition of *riba* (interest); the institution of *mudarabah* (Islamic profit-loss-sharing system); the abolition of *Israf* (wasteful consumption); and the institution of the Islamic tax *Zakat*. The principles and policy instruments are used throughout the book.

In Part II, he tries, in a rigorous and mathematical way, to develop microeconomic foundations for Islamic economics. Based on constraints imposed by the Quran and other Islamic sources, his principles, and his interpretation of them, he develops an Islamic theory of demand, the first order efficiency conditions of the firm in an Islamic economy, the impact of *Zakat* on resource allocation, *mudarabah* and its efficiency, microeconomic decision-making in Islamic economics and an Islamic welfare economics.

In Part III he discusses macroeconomic foundations of Islamic economics. First he develops an Islamic investment theory in which a normal rate of profit replaces the interest rate. Then

an Islamic macroeconomic consumption function is developed from its microeconomic roots. Finally, he discusses the general equilibrium relations of the Islamic macroeconomic model, and the IS-LM schedules. But, because of the replacement of interest by the rate of profit and the profit-loss-sharing mechanism, his Islamic IS-LM schedules are very different.

In Part IV he tries to show that Islamic economics is a special case of social economics. He regards it as a special case of social economics because, to him, "it lays the foundation of a non-homo economicus society in which individuals would interact and social relationships would be established on the basis of ethical dealings thoroughly pervading the realm of economics" (p. 199). At the end of Part IV, he tries to build a general equilibrium model based on the microeconomic concepts of Islamic economics.

Professor Choudhury's task—whether in the nontechnical discussions of Part I or other highly mathematical parts—is not an easy one. In spite of the depth of his analysis and his vast knowledge of Islam, he cannot escape the difficulties that any serious writer on Islamic economics would face. Part of it has to do with his choice of "major principles of Islamic economics." Because there exist various sources of Islamic economics, because there have existed numerous sects and different ideological persuasions and debates among Muslim scholars, his choice of principles are arbitrary. Others may choose more, or less, principles, and different ones. For example, Ahdul-Rauf has chosen ten principles (commandments). Besides, his interpretations of the ones he has chosen may not be the same as others. For example, why should his first principle lead to equality among Muslims while various Quranic verses accept inequality? He has to justify the selection of these principles.

The second difficulty he faces concerns the difficulty of providing a scientific framework for a set of religious beliefs (dogma). It is no wonder that some of the most important proponents of Islamic economics—Bani Sadre and Taleghani of Iran and M. B. Sadre of Iraq—have argued that Islamic economics cannot be a science. Thus, in order to impose a scientific framework on Islamic economics, he often has to adhere to sweeping generalizations or over-

simplifying assumptions. A case in point is the rather modern assumptions that he imposes on the Islamic firm. Another example is his assumption that Zakat is primarily a tax on idle wealth and, thus, is conducive to reducing X-inefficiency, a rise in investment and a positive multiplier effect. Muslim theologians and scholars have always regarded Zakat to be a tax on various forms of wealth and income, and, thus, it cannot accomplish what Choudhury claims it would.

In spite of these and other difficulties, this is an excellent book on Islamic economics. It is also a great exercise in adding ethical and moral dimensions to economic analysis. Thus, on balance, it is a positive contribution to the field.

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Contradictions and dilemmas: Studies on the Socialist economy and society. By JÁNOS KORNAI. Translated by ILONA LUKÁCS, JULIANNA PARTI, BRIAN MCLEAN AND GYÖRGY HAJDÚ. Cambridge, Massachusetts and London, England: MIT Press, 1986. Pp. ix, 165. \$15.00. ISBN 0-262-11107-1.

JEL 87-0062

This volume is comprised of seven essays on tradeoffs among objectives of policy makers and reformers. While the primary focus is Hungary and other socialist economies, comparative methods are used, and implications for capitalist economies are drawn. The essays, first published in English between 1979 and 1983, are addressed to a wide audience of academics, policy makers, and interested laymen.

In the first essay, a presidential address to the Econometric Society, Kornai contrasts resource-constrained and demand-constrained systems. Firms in both systems are assumed to strive to increase production. Under "classical" capitalism (as described by Marx and Keynes), firms fear to expand production beyond expected demand because they face "hard" budget constraints, i.e., the possibility of bankruptcy if revenue fails to cover expenses. Under classical socialism (e.g., Hungary before its 1968 reform), firms operate under a "soft" budget constraint, i.e., they expect to be able to adjust their finances to expenditures, frequently with state assistance. Consequently,

firms produce as much as physical resources permit. In both systems frictions in resource allocation create a tradeoff between shortage (excess demand for some goods or factors) and slack (excess supply). Kornai expects a predominance of shortage in resource-constrained systems and slack in demand-constrained systems. The macroeconomics of a resource-constrained system is illustrated by a hydraulic analogy: Firms suck an input "reservoir" nearly dry. A trickle of goods leaks from a reservoir intended for consumers into the input reservoir. Price increases reduce the purchasing power of consumers but not of firms. Leakage between the two reservoirs makes inflation an ineffective antidote to shortages of consumer goods. This denial of a tradeoff between the price level and shortage deserves empirical testing.

The second and third essays explore the origins of soft budget constraints. Bankruptcy of a large firm would impose losses on large numbers of employees, creditors, and suppliers, who form a powerful lobby for state assistance to the endangered firm. Governments in socialist countries (and to a lesser but increasing degree capitalist countries) find that it is impolitic to allow large firms to collapse; therefore they adopt a "paternalistic" attitude toward them, softening their budget constraints.

The fourth essay traces the reciprocal influences of market conditions and attitudes. "In a shortage economy the buyer feels himself defenseless and subordinated, while the seller develops a consciousness of power and dominance" (p. 63). However, consumers will tolerate only limited amounts of shortage. If these limits are exceeded, labor productivity and public support for policy makers may decline. If policy makers are not continually attentive to these limits, they may periodically overstep them, inducing cyclical fluctuations in the composition of national income. Because policy makers, like everyone else, are only boundedly rational, they cannot simultaneously attend to all constraints.

The fifth essay comments on Hungarian economic reforms in 1979-82. These reforms entailed a price revision and, in principle, a hardening of budget constraints. The revision would have affected the profitability of state enterprises if budget constraints had indeed been hardened. But taxes and subsidies were ad-

justed to offset the effect of the revision on profitability. There is almost no correlation between profits of state enterprises before and after taxes and subsidies. Kornai infers that the budget constraints of state enterprises remain quite soft. However, a move in 1982 to break large enterprises into smaller units and found more small enterprises may reduce enterprises' lobbying ability and thereby eventually harden budget constraints. Shortages have been alleviated by relaxation of restrictions on cooperative and private enterprises but exacerbated by an export drive aimed at reducing foreign debts.

In the sixth essay, Kornai asks to what extent it is possible to harmonize the principles of efficiency and socialist ethics. He finds conflicts between them in three areas. (1) Bonuses based on profits under hard budget constraints strengthen incentives and foster careful calculation, thereby increasing efficiency. But such bonuses vary with exogenous conditions as well as the efforts of enterprise members, thereby violating the socialist principle of equal pay for equal work. (2) Liquidation of inefficient firms frees resources for more productive uses. But the resources include workers, who should be protected from job loss in the interest of solidarity and security. (3) Decentralization of investment stimulates efficiency by promoting flexible adjustment of production to changing conditions, giving scope to entrepreneurship, and making decision makers assume responsibility for their actions. But decentralization exacerbates problems of externalities and thereby clashes with the socialist principle of placing general before partial interests. From these conflicts, Kornai concludes that it is impossible to create a system that would be both fully efficient and ethical.

In the last essay the author explores analogies between economics and medicine. Inflation, unemployment, shortage, excessive foreign debt, growth disturbances, and bureaucratization are the chief diseases of economies. No economy is entirely free of all diseases. Radical treatment of one disease often has unwanted side effects, as when strong anti-inflationary measures lead to unemployment. After an acute attack of a disease a predisposition to relapse may remain, as when inflation is checked but inflationary expectations endure. A therapy that

is suitable in one "risk situation" may be inappropriate in another.

This volume, like all of Kornai's works, is insightful, original, carefully reasoned, well-balanced, and highly relevant to practical problems. What distinguishes it from his previous books is its lively, nontechnical style. As a teacher of comparative economics, I have long wished for a book presenting Kornai's views in a manner accessible to undergraduates. This is it.

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100 Economic Growth; Development; Planning; Fluctuations

110 ECONOMIC GROWTH; DEVELOPMENT; AND PLANNING THEORY AND POLICY

[STREETEN, PAUL] *Theory and reality in development: Essays in honour of Paul Streeten.*

Edited by SANJAYA LALL AND FRANCES STEWART. New York: St. Martin's Press, 1986. Pp. xii, 291. \$29.95. ISBN 0-312-79726-5. JEL 86-1044

This festschrift is a fitting tribute to Paul Streeten, who has made major contributions to several areas of development economics over the last four decades. While the fourteen papers contained in it address a variety of issues and have different perspectives, they share Streeten's interests and methodology, which are described in Hugh Stretton's opening essay. Streeten has been critical of neoclassical theory because of its lack of realism, neglect of social and political institutions, over-mathematization, and attempted side-stepping of moral issues; he has not had much faith in the efficacy of free markets and has been deeply concerned with the problems of poor people and poor nations.

The majority of the papers deal with open economy issues. Several contributions in this category are on trade theory and policy. Jagdish Bhagwati and Richard Brecher use the standard $2 \times 2 \times 2$ model of neoclassical trade theory to derive the heterodox results that capital inflows may be immiserising for an open economy, and that trade can hurt a capital importing country. Sanjaya Lall applies the traditional theory of comparative advantage to explore to

what extent developing countries can export traded services, but takes into account the fact that comparative advantage is not static, and can be made to change over time by government policy. Gerald Helleiner reports on regression analyses that show that import stability, rather than the degree of export orientation, affects the growth performance of African LDCs, thereby questioning the validity of the standard export-led growth proposals. Both the Bhagwati-Brecher and Helleiner papers can be thought of as critiques using the methods of those being criticized. But they are controversial precisely because of that: for example, if export orientation helps growth through its effect on capital accumulation, Helleiner's results could still be consistent with standard advice, and if the economies which Bhagwati-Brecher consider face a given terms-of-trade instead of a variable one which is assumed in the paper, they would benefit from capital inflows.

Three papers deal with the world recession. Those by Wilfred Beckerman and Michael Lipton that analyse global stagflation are among the most interesting in the collection. Beckerman argues that advanced economies have managed to reduce their inflation rates by reducing their growth rates. But this has occurred only because they did so collectively, thereby reducing the world demand for LDC commodities and their prices, which allowed imported inflation to be controlled, rather than by weakening the position of workers by increasing unemployment. The analysis uses a Kaldorian perspective on the world economy, and questions the restrictive policies of advanced economies because of their impact on LDCs. Lipton compares the recent crisis due to the rise in the share of oil rents to the Ricardian analysis of a profit squeeze due to a rise in the share of land rents in nineteenth century England. The analysis is useful in stressing the importance of relations between classes and the role of demand in the recent crisis. Finally, the late Carlos Diaz-Alejandro compares the experience of Latin America in the early 1980s to that during the 1930s, emphasizing the role of contrasting features of the international political economic situation in the two periods.

The remaining papers on open economy issues consider other aspects of economic relations between nations. Frances Stewart and

Nurul Islam provide excellent surveys on North-South negotiations and the stabilization of world food supplies, respectively. Stewart's paper is particularly interesting in examining why the negotiations have failed, and in suggesting feasible strategies that the South could adopt to negotiate more successfully. Mahbub ul Haq's paper proposes the creation of an IMF debt refinancing subsidiary for dealing with the international debt problem, and Deepak Nayyar's finds similarities in the pattern of trade between nonsocialist LDCs and developed socialist economies, and North-South trade.

Only two essays deal with purely domestic issues. Keith Griffin presents data on rates of growth of production and productivity, and using simple reasoning, dispels the widely held belief that communal land tenure systems in socialist economies perform poorly in comparison to individual tenure systems in market economies; a fuller analysis would have required comparisons of productivity levels as well. Jeffrey James uses alternative theories of managerial behavior to show why the choice of technology in Tanzania's public enterprises does not conform to the declared objectives of the government. While the analysis is valuable in understanding why problems of implementation arise at the bureaucratic level, a more complete analysis would also have to explore the nature of the state and the political constraints within which it operates that affect policy formulation.

A more general essay written by Amartya Sen in the delightful style that is a trademark of his writing, argues convincingly that Adam Smith did not claim either that individuals are driven only by selfish motives or that *laissez faire* is the best policy.

While a festschrift need not have any specific objectives, the title of this one might suggest that this is a comprehensive book on development economics. Indeed, it does cover a wide range of topics on the subject, and as such would be a good candidate for supplementary reading in courses in development economics. That recommendation is made subject to three caveats. First, the coverage of topics places too little emphasis on domestic issues, both in relation to what is usual in the development literature in general, and in Streeten's work in particular. Second, many of the papers lack rigorous

theoretical analysis and rely instead on vague and casual generalizations. This has the virtue of making the book accessible to noneconomists, but may serve to reinforce the unwarranted belief that analyses emphasizing institutions and structures cannot be mathematical or at least rigorous. Finally, the views expressed in most of the contributions will seem to be excessively heterodox to those who would like to apply only neoclassical economic theory to the study of development problems, and who extol the virtues of free markets. But it is precisely this quality that makes this book a healthy antidote to the recent spate of books on development economics written from a mainstream neoclassical perspective.

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130 ECONOMIC FLUCTUATIONS; FORECASTING;
STABILIZATION; AND INFLATION

Years of recovery: British economic policy 1945-51. By ALEC CAIRCROSS. London and New York: Methuen, 1985. Pp. xiv, 527. \$59.95. ISBN 0-416-37920-6. JEL 86-0089

The Labour Government came to power in 1945 with ambitious plans to nationalize the basic industries and to introduce measures of social welfare. The economy had to be turned over from war to peacetime activities, a transition accomplished on the whole with remarkable smoothness, but punctured nevertheless by a series of economic crises. During the period covered by his book, Sir Alec Cairncross was for three years economic adviser to the trade and industry ministry (the Board of Trade), and for another year chief economist at OEEC, by then set up in Paris to administer the Marshall Plan. He was thus close to (though, as he explains, not mainly concerned with) macroeconomic policy in the period he now discusses. Later he was economic adviser to the Government and head of the Government economic service—appointments that give additional authority to what he writes.

In part his book incorporates new material from the official records, now available under the 30 years rule. These do not add greatly to the story already known, but reveal what went on at the official level, and between ministers and officials. The book thus retains the view-

point of one who was there at the time. The more novel parts of the book are presented as studies in policy making, and for this purpose Sir Alec has concentrated on times of crisis. The book, therefore, is not a consecutive account of developments. It says little about years when there was no crisis, which was about every other year. Since most of the crises had to do with the balance of payments, most of the discussion is about external policy. Domestic policies are then discussed in a series of chapters on such topics as planning and controls, fiscal policy and nationalization. Some of these draw heavily on existing studies.

One result of scrutinizing the official record is to make the fallibilities of government obvious to all. This is not completely fair: a valet has always been in a good position to observe the failings of his master. Sir Alec may be right in suggesting that this government was singularly ill-prepared for the economic problems it was to face. But the problems were both new and large.

The most vivid impression of ministerial inadequacy is perhaps provided by the negotiations for the American Loan in 1945. The end of the war with Japan, and consequently of Lend-Lease, left a yawning gap in the balance of payments: hence the need for a loan. It was Keynes who played the dominant part both in shaping the proposals put to ministers, and in conducting the negotiations. "Unfortunately there was a wide gap between Keynes's presuppositions and those of Ministers, most of whom had had little time to acquaint themselves with the complexities of the issues" (p. 89). There was an equally wide gap between what Keynes hoped for and what he could get. The loan eventually granted seems in retrospect relatively generous, though it lasted less long than expected. Sir Alec devotes another long chapter to the "convertibility crisis" of 1947 when the American loan ran out. On the basis of a detailed postmortem, Sir Alec concludes that though the convertibility of sterling (on which the US had insisted as a condition for the loan) had in fact little to do with the crisis, it was nevertheless as well that convertibility was suspended. (It is one of the oddities of the book's structure that little is said of the origins of Marshall Aid, which was to finance subsequent payments deficits.)

The chapter on the 1949 devaluation of ster-

ling (which appeared in substantially the same form in Cairncross and Eichengreen, *Sterling in Decline*, Oxford: Blackwell, 1983) gives an interesting account of the internal discussions. Devaluation was resisted by senior ministers, in particular Cripps and Attlee: to a Government wedded to planning, such resort to the price mechanism did not come naturally. The decision was made by a small group of junior ministers, notably Gaitskell: but it was delayed to the point of being widely expected. It would have been interesting to have been told the basis on which so large a depreciation as 30 per cent was estimated to have been appropriate. In fact most other industrial countries devalued on a smaller scale (which appears not to have been foreseen), so that the effective depreciation of sterling was of the order of only 10 per cent. The most important effect was therefore to appreciate the US dollar by the back door. A world-wide realignment of currencies of this sort was a major step toward international balance. Was it really unexpected—by the UK, the US and the IMF? It would have been interesting to know more.

On the fall of the Labour Government at the end of 1957, the new Chancellor (Butler) was presented with a proposal which went by the code name of "Robot." This proposal by a senior group of Treasury and Bank officials was to make sterling convertible forthwith, and take the strain on the exchange rate which was now to be allowed to float. That would have forced priority to be given to the balance of payments over domestic objectives of policy and have meant generally more restrictive policies. The hope was to put the plan into effect in very short order; and budget day was advanced for this purpose; but the Cabinet hesitated, and then grew cool. Sir Alec's account of this affair (which, strictly, falls outside his time limits) is probably the fullest available. He concludes, correctly in my view, that the plan would have been unwise. He provides, in effect, a study in the pathology of policy making.

The years of the Attlee Government saw the incorporation of Keynesian budget making and macroeconomic forecasting into the official machine; it is interesting to have Keynes' own reaction (p. 414) to this in its early days ("The forecasts were too contentious . . . he was against fine tuning. . . . It was wise to err on the safe side by allowing some inflationary pres-

sure"). It was also a period when the government attempted to rule without the assistance of monetary policy. Though that is not much discussed by Sir Alec, he devotes an interesting section to Dalton's attempt at ultra-cheap money—by no means as unorthodox then as it would be now.

The conclusion of the book is not well resolved. Sir Alec's account points repeatedly to weaknesses, both small and large, on the part of most members of the government. Yet his final conclusion is:

All in all, the early post-war years presented the government with a much more difficult task of economic management than the two decades that followed; and its mastery of the task entitled the government to all the more credit . . . those years appear in retrospect . . . as years when the government knew where it wanted to go and led the country with an understanding of what was at stake. (p. 509)

That praise is too high. Other countries, following different policies, also recovered from the war; most was due, here and elsewhere, to the natural regenerative power of private enterprise. Arguably the government's policies helped more than not; but it had to learn painfully, as left-wing administrations often do.

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The overburdened economy: Uncovering the causes of chronic unemployment, inflation, and national decline. By LLOYD J. DUMAS. Berkeley, CA and London: University of California Press, 1986. Pp. xiv, 297. \$18.95. ISBN 0-520-05686-8. JEL 86-1056

Lloyd Dumas divides what is conventionally measured in the GNP into three types of activities—contributive, neutral, and distractive. Contributive activities are those goods and services that contribute to the quality of life, neutral activities (such as excessive private bureaucracy) absorb resources but do not produce goods and services, and distractive activities (such as religion or defense) absorb economic resources to produce noneconomic outputs. The author argues that the slowdown in U.S. productivity growth can be traced to the production of too many neutral or distractive goods and services that have drained resources,

mostly scarce scientific resources, from the contributive sector of the economy. To produce a healthier economy with more growth, less unemployment, and less inflation, the United States must restructure itself to reduce the demand for neutral or distractive goods and services.

If the United States continues on its present path, the rates of inflation and unemployment from which we suffered at the end of the 1970s—rates that were viewed as horrific at the beginning of that decade—will look like economic good times compared to what will be commonplace by the early 1990s, not to mention the turn of the century. Productivity growth will continue to deteriorate; real income, and thus (the) material standard of living, will begin an accelerated decline. (p. 236)

[While the] contributive sector operates primarily according to market principles toward what are clearly economic goals . . . (t)he neutral sector is to a much greater extent driven by sociological and psychological factors (mainly related to the operation of bureaucracy) in the pursuit of personal power and status by the key decision makers involved. Activities in the distractive sector, on the other hand, are likely to be motivated by political considerations, though psychological, religious, and general cultural factors may well play a significant role. (p. 154)

These powerful forces have simply made the neutral and distractive sectors too big, according to the author.

While this book flirts with the idea that individuals may buy distractive goods and services ("fancy cars, superstereos, and expensive clothes, while they may provide a kind of narcotic rush, bear no necessary relation to lasting happiness or deep feelings of personal fulfillment"; p. 48), most of the analysis focuses on defense as the major distractive burden weighing the economy down.

When it comes to neutral activities there is an internal contradiction that illustrates the book's fundamental problem. Work is viewed as more than a way to earn income. "A paying job is in itself a source of personal worth" (p. 38). It creates benefits—"psychological (creativity, satisfaction); sociological (interpersonal contact, a sense of belonging, status); and narrowly economic (the means for satisfying material needs or wants)"; p. 40). These noneconomic benefits from work are so important that it is legitimate for a society to "place equalizing tariffs—equal to and no higher than those costs (the extra costs of producing goods and services

with 'good' jobs rather than narrowly economic jobs)—on foreign producers, to avoid unfairly disadvantaging domestic industry" (p. 181). Yet it is illegitimate for managers to attempt to raise the noneconomic benefits of their jobs by increasing the number of managers that report to them. Workers can legitimately add long coffee breaks to the production process if it adds to their enjoyment but managers cannot add managers to the production process even if it adds enjoyment to their part of the production process. Why?

Implicitly Lloyd Dumas is willing to distinguish between legitimate and illegitimate preferences. While each of us has our own beliefs regarding the legitimacy of other people's preferences there is a real problem with how we translate these personal judgments into social judgments that can be legitimately used to force individuals or groups to change their behavior.

Lloyd Dumas simply assumes that there is more social agreement than there is—"all individuals can agree on which goods are contributive" (p. 151), "once we can at least roughly agree on the primary purpose of the distractive activity (defense)" (p. 251). What do we do if there is no agreement regarding how much defense is enough or which activities are contributive and which are neutral or distractive? Although I personally agree with many of Lloyd Dumas' answers to these questions, I suspect that many, perhaps even a majority, do not. What is to be done then?

The author rules out the one possible answer. If Americans want more defense and he is right that defense spending is draining the civilian economy, then the right answer is to retune the economy to increase the supplies of those resources (principally scientific manpower) absorbed by defense but needed by the civilian economy. But Dumas argues that "there is an upper limit to the pool of scientists and engineers potentially available to a society over time as well as at a given time. This pool is not likely to be large, compared to the needs of a vigorous, modern technology-based economy" (p. 186). I suspect that this judgment is not correct, but if it is correct, then the author has no solutions to the problems raised.

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The quest for economic stability: Roosevelt to Reagan. Second edition. By HUGH S. NORTON. Columbia, SC: University of South Carolina Press, 1985. Pp. xvii, 329. \$19.95. ISBN 0-87249-456-X. JEL 86-0720

In January 1986 the Joint Economic Committee (JEC) of the United States Congress held a symposium and dinner to mark the 40th anniversary of the committee and of the Employment Act of 1946, which created the Committee and the President's Council of Economic Advisors (CEA). The friends and supporters of the Employment Act were invited to the dinner. A good-sized crowd of warm, friendly public officials, business leaders, and other distinguished leaders attended. The dinner gave me the opportunity to reminisce about the Kennedy Administration with the guests, among whom was Hugh Norton, who, in this book, focuses upon the peaks and valleys of CEA and JEC influence under the Employment Act.

Hugh Norton, I, and others seemed to agree that the heyday of the CEA, the peak of its quality and power, was under the chairmanship of Walter Heller (1961-64), who had the good sense to team up with James Tobin (1961-62), Kermit Gordon (1961-62), Gardner Ackley (1962-64), Otto Eckstein (1964-66), and Arthur Okun (1964-68). John Kenneth Galbraith wrote a steady stream of letters to President John F. Kennedy while Galbraith was serving as U.S. Ambassador to India. The letters were "made interesting or vulgar enough to ensure his [JFK's] attention" (Galbraith 1981, p. 400). Perhaps most important, the staff economists of the Heller CEA were arguably the best ever; many, such as Robert Solow, James Duesenberry, Charles Schultz, and Lester Thurow, would be in the economist's Hall of Fame were it to exist. At the beginning of the second year of the second term of an allegedly conservative Republican president, the comments of our Senate dinner companions, Heller's masterful speech, and the reverence accorded the Employment Act of 1946 seemed sensible and oddly enough, relevant.

As Leonard Silk explains in his foreword to this lively, fascinating book, the (then) new knowledge upon which the Employment Act of 1946 was based was the doctrine embodied in John Maynard Keynes' Great Depression an-

tidote, *The General Theory of Employment, Interest, and Money*. Government "had it in its power to create enough demand for what the nation could produce, so as to provide jobs for all" (p. xi). President Ronald Reagan—unlike John F. Kennedy who used mild Keynesian doses of expenditure increases and a tax cut proposal—went to the well twice with Keynes. Reaganomics, or "supply side" economics, early in the first term ended up using reverse Keynesianism to cause the greatest economic downturn since the Great Depression. The best thing that can be said about that experiment is that inflation slowed. Reagan, the pragmatist, used Keynesian budget deficits to pull the economy out of depression, something that President Franklin Roosevelt could not or did not do during the 1930s. As Norton observes, Adolph Hitler ended the Great Depression, and Ronald Reagan has been characterized as the "ultimate Keynesian."

All of which brings us back to the Senate dinner. Despite President Reagan's right wing rhetoric about getting the government off the backs of the poor, and his threat to shut down the CEA, the principles of the Employment Act, passed by Congress to place responsibility on the Federal government for continuing policies for the promotion of maximum employment, production, and purchasing power in order to avoid a repetition of the Great Depression ultimately were sustained, even taken for granted by the Congress. Moreover, the great economic decline of 1981–1982 revived Keynesian anti-Depression policies at a time when Keynesianism appeared moribund. The Reagan Administration used the greatest budget deficits and the fastest monetization of debt in history (of any nation) to stop the fall.

Norton begins his accounts of twelve presidents and their economic advisors with Harding and Coolidge, both of whom worshipped business and detested the government they were elected to lead. In a typically lively account, Norton identifies Coolidge's frequent luncheon guests (and probable economic advisers) which included J. P. Morgan, Jr., Clarence W. Barron of *Barrons*, and W. H. Grimer, editor of the *Wall Street Journal*—all able men, but hardly unbiased in their views on government regulation of industry. The veneration of business ex-

plains the tariff acts of these administrations that were aimed at keeping purchasing power at home, but ultimately were to be contributing causes of the Great Depression.

Herbert Hoover receives deservedly better treatment. Much of Hoover's anti-Depression program was enacted during the famous first hundred days of the Roosevelt Administration. Hoover, like Keynes, worried about business confidence. The Hawley-Smoot Tariff Act continued the protectionist tendencies of the Coolidge administration. A half century has passed; Reagan and the U.S. Congress recently have proposed (and enacted) more new trade restrictions in misguided attempts to save certain industries or even specific firms. (Better policies would aim at easing the human burdens of structural change rather than trying to prevent it.)

The chapter on Roosevelt illustrates Norton's winning style. The reader is given enough biographical material to maintain interest and at the same time to reveal the president's motivations. No wonder that Roosevelt is Reagan's hero; the earlier president also was able to reverse direction, from an attack on Hoover for excessive deficit spending to the New Deal welfare measures that eased American's burdens throughout the Depression. The central difference; Roosevelt's "Brain Trust" really did understand economics, even though he (like Reagan) viewed the subject with studied indifference.

The ideas and approaches of remarkable personalities continue with the chapter on Truman who signed but did not shape the Employment Act. Many years ago the late Edwin G. Nourse, the first CEA chairman, related to me the difficulties he experienced with a president who expected even professionals to be politicians. The political innocence of the CEA ended with Nourse's resignation, a result of Nourse's inability to speak forcefully for a CEA he nominally headed but for which Leon Keyserling, a lawyer and CEA member, was Truman's policy advocate.

Keyserling's activist policies as CEA chairman nearly ended the Council. As Norton observes, Gabriel Hauge convinced President Eisenhower to ask for continued funding despite considerable Congressional opposition. Arthur F. Burns, the first of Eisenhower's chairmen,

receives high marks for his advice and Eisenhower comes off much better than many economists would have us believe. After that, of course came Kennedy, Walter Heller and a rising stature for the CEA that continued until the pressures of Vietnam brought it and President Johnson down. The late Arthur Okun once said that the prestige of the economist in Washington peaked in 1965. Perhaps, but as Norton relates, Herbert Stein, a CEA member who was Chairman Paul McCracken's Keyserling during the Nixon years, disagrees. On the other hand, Norton claims that then Secretary of Labor George P. Shultz ran White House economic policy.

Before closing with Reagan's first term, the author examines Jimmy Carter as the "ultimate outsider" and his CEA Chairman, Charles Schultze, as the "ultimate Washington insider." Schultze, a longtime civil servant in the British sense, was an orthodox neoclassical Keynesian. Depression economics can only slow inflation with a Depression; Carter had only enough political capital to endure a recession. Even Carter's recession was so badly timed that it helped to end his presidency.

Norton's book is political economy at its best, written with verve and wit. It blends economics, history and personalities in a way that engages even the wary reader. Through it all, he convinces us that the CEA has made a significant contribution to economic stability. If Eisenhower and Reagan had gone through with their threats to end the Council, the damage to economic policy making and public understanding would have been great.

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REFERENCE

GALBRAITH, JOHN KENNETH. *A life in our times: Memoirs*. Boston: Houghton Mifflin Co., 1981.

General equilibrium trade policy modeling. Edited by T. N. SRINIVASAN AND JOHN WHALLEY. Cambridge, MA and London: MIT Press, 1986. Pp. vii, 360. \$40.00. ISBN 0-262-19245-4. JEL 87-0091

In its essentials, applied general equilibrium analysis involves the use of numerically speci-

fied Walrasian models to make comparisons between equilibria involving different policy regimes. It is a methodology increasingly used in the assessment of economic policy, particularly in the areas of taxation and international trade. As it is applied to trade policy, the methodology has obvious antecedents in the Meade-Johnson two-sector equilibrium trade models, but the increasing availability of computer resources and the development of appropriate solution techniques has freed researchers to pursue the large dimension models that are typified in this book. In addition to his own pioneering efforts, John Whalley has maintained a watching brief on the development of applied general equilibrium models and this present work is a logical and useful extension of his and John Shoven's (1984) previous survey of the field. He and T. N. Srinivasan have now produced something of a chronicle of a rite of passage of this particular modeling approach as it moves from youthful enthusiasm to a more mature, if still shaky self-confidence.

This volume represents the proceedings of a Conference on General Equilibrium Trade Policy Modeling held at Columbia University in April 1984 with the express purpose of requiring a small group of researchers, representing nine distinct general equilibrium trade models, to report on the effects of a 50 percent tariff cut on either a unilateral, bilateral or multilateral basis as appropriate to the scope of their own particular models. This exercise was seen as an instrument to bring areas of agreement and disagreement among models into focus and thereby identify the most promising avenues for future research. As participants also included economists identified with other approaches to trade policy analysis and other individuals closely associated with policy making, the conference afforded the opportunity of debating and gauging the policy relevance of the applied general equilibrium approach at its current stage of development.

The nine models discussed in this book differ markedly, not only in geographical scope, but also in terms of structural specification, data, levels of aggregation, calibration procedures and solution techniques. Not surprisingly, there is little agreement among the results, nor is it even easy to make meaningful comparisons among them. Generally, however, the welfare

implications are small, usually less than one percent, but exceptions are indicated in the papers by Richard Harris and by Wafik Grais, Jaime de Melo and Shujiro Urata. For Canada, Harris finds that a multilateral tariff cut of 50 per cent results in a 3.6 per cent increase in domestic welfare, a result he explains by the fact that his model incorporates scale and industrial organization considerations that can be exploited when trade liberalization affords a small economy access to larger markets. Grais, de Melo, and Urata obtain relatively high welfare implications for Turkey as trade liberalization eliminates rent-seeking activities associated with quotas.

All of the included models are subject to the general criticisms of the quantitative general equilibrium approach. These are legion, but the proceedings reflect an open and free flowing discussion of them. Perhaps the major difficulty is the matter of model preselection. Because structure must be imposed in the calibration procedure, there is no means of discriminating among alternative models and hence no procedure for resolving conflicting economic theories. Sensitivity analysis may offer a potential remedy, but only a few of the authors, Glenn Harrison in particular, have attempted to incorporate it. Srinivasan argues, however, that refutability of the models is unimportant since their advantages lie in their ability to provide insight into complex economic interdependencies rather than in their predictive ability.

Considerable attention is also given to the serious problem of obtaining appropriate trade elasticities. While these parameters are crucial to model results, most researchers continue to rely on estimates available in the literature, the reliability and appropriateness of which can be seriously questioned. With regard to the modeling of trade policy, most of the models incorporate only tariff measures, while it is clearly evident that nontariff barriers are the principal focus of current trade policy discussions. Similarly, none of the models deals adequately with adjustment costs, surely the most relevant aspect of policy changes for the policy maker.

Somewhat surprisingly, scant attention is given in the proceedings to the actual differ-

ences among the model results; indeed, the participants appear to have been quite reluctant to discuss them. Little seems to have been lost, however, as the conference and this book appear to have been successful in achieving the ultimate goals of examining the current state of applied general equilibrium modeling of trade policy and, out of that, establishing the agenda for future research efforts. Despite some pessimism about that future which one experiences in reading the book, it is difficult to deny the editors' conclusion that these modeling efforts are moving in sensible and appropriate directions in the attempt to bridge theory and its policy application.

It is also difficult to fault the editing of this book. The editors (with Deborah Fretz) provide a good introduction which includes tabular summaries of the model characteristics, their sources of data, and their major policy findings. They also appear to have enforced an unusual discipline on their writers in maintaining a consistency of structure across the individual contributions. Each paper includes a summary of the model characteristics, a discussion of the results obtained for the assigned tariff-cutting exercise, and, most importantly, an attempt to explain the intuition of the model and its results. However, if one part of the book stands out as a particularly valuable contribution, it is Randall Wigle's summary of a series of panel discussions on general equilibrium trade policy modeling that also formed part of the conference.

This is a well-crafted book which will be required reading for anyone interested in the modeling of trade policy. Given its intelligent and restrained assessment of the applicability of general equilibrium modeling to policy analysis, it also deserves to be read by the makers of policy and their advisors.

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REFERENCE

- SHOVEN, JOHN B. AND WHALLEY, JOHN. "Applied General-Equilibrium Models of Taxation and International Trade: An Introduction and Survey." *J. Econ. Lit.*, Sept. 1984, 22(3), pp. 1007-51.

00 Quantitative Economic Methods and Data

210 ECONOMETRIC, STATISTICAL, AND MATHEMATICAL METHODS AND MODELS

Longitudinal analysis of labor market data. Edited by JAMES J. HECKMAN AND BURTON SINGER. Econometric Society Monographs series, no. 10. Cambridge, New York and Sydney: Cambridge University Press, 1985. Pp. xv, 410. \$49.50. ISBN 0-521-30453-9.

JEL 86-0450

This is a book with large quantities of useful material. For the practitioner it contains an encyclopedic overview of the techniques available for the treatment of several problems that arise repeatedly in the empirical analysis of longitudinal data sets. Though the examples are taken from data on individuals, similar problems arise in the analysis of firms, and the increasing availability of longitudinal firm-level data sets ought to make the essays of interest to a wide variety of empirical researchers. For the more theoretically minded econometrician, it provides, in addition to new results, some thoughtful discussion on what are the important open questions, and how we ought to look for solutions to them. The importance of a question and the appeal of a solution are defined in terms of their usefulness in analyzing issues that arise in the social sciences—an eminently reasonable criterion.

The book is divided into three sections (labeled Econometric Studies, Statistical Studies, and Sociometric Studies, respectively). Three of the four essays in the introductory section consider the statistical analysis of relatively simple standardized models (such as the linear stimulus-response model, and the proportional hazard model) in the presence of unobservables and/or selection mechanisms which confound the relationships of interest. The advantages of standardization and simplicity are such that the models discussed in these essays provide a first (and often the only) cut at longitudinal data analysis of most empirical issues. Further, for economic applications, the confounding effects of unobservables and selection mechanisms seem to be both pervasive and, at least under only mild regularity conditions, difficult to account for. Two of the three essays in the statistical studies provide more detail on related

issues. The two "deviant" papers (there is one in each section) are more directly concerned with the interplay between economic theory and the structure of the econometric model that might be fit to the data. Indeed, the question of the extent to which economic theory ought to be used to structure econometric analysis threads its way through most of the essays, and I come back to it below. The Sociometric Studies section contains two empirical studies which illustrate how some of the issues discussed in the earlier essays arise. These studies also serve to remind us that increases in the availability and quality of data could do as much to increase our understanding of the issues at hand as could advances in econometric methodology. I now proceed to outline the themes of the articles in the Econometric Studies section.

Gary Chamberlain's paper, "Heterogeneity, Omitted Variable Bias, and Duration Dependence," begins by considering the problem of time invariant unobservables in the linear stimulus-response model with continuously observed responses. Since the effect of the unobservable on the observable response is additively separable in these models, he can, under mild regularity conditions, base identification and testing on projection arguments—at least if the process generating the x 's is strictly exogenous of the disturbance process (each year's disturbance is uncorrelated with past, present, and future x 's). There are many cases in which strict exogeneity is unreasonable and then, as the article shows, things get more difficult, but are not always hopeless. A similar analysis applies to nonlinear models provided the effect of the unobserved component is additively separable. In models for discrete data the effect of the unobserved component is buried inside a nonlinear probability statement, and currently used techniques require more explicit distributional assumptions for identification. For some disturbance distributions an assumption on their conditional distribution is enough, but for most an assumption on the conditional distribution of the unobservable is needed also (given both, and some mild regularity conditions, only a computation problem remains and this is an area in which significant progress has been made since Chamberlain's article). The article goes on to discuss the relationships between serial correlation, state de-

pendence, and the sampling interval between observations.

James Heckman's and Burton Singer's "Social Science Duration Analysis" begins with an accessible introduction to the statistical analysis of duration data with emphasis on the restrictions implicit in the proportional hazard specification (the hazard function gives the probability of exit from the state per unit of time conditional on survival until that time, and in the proportional hazard model differences among individuals do not affect the curvature of the log hazard function, only its origin). The article then focuses on the bias induced by uncontrolled for, or incorrectly controlled for, heterogeneity (differences across individuals) in the proportional hazard model (uncontrolled for heterogeneity induces a bias towards negative duration dependence, or a falling hazard over time). The article provides a summary and extension of recent work (some of it by the authors themselves) on obtaining consistent estimates (or test statistics) for the form of time-dependence structure of the hazard function when there is heterogeneity of an unknown form. Their strategy is to allow for unobserved components whose distribution, though independent of the observed x 's, need satisfy, in addition, only mild regularity conditions. Sections on using information from samples where the start and finish date of the sample does not coincide with the start and finish date of spells, and on multistate multispell models follow.

James Heckman and Richard Robb in "Alternative Methods for Evaluating the Impact of Interventions" examine the impact of interventions in the presence of endogenous selection rules by agents (the motivating example is estimating the impact of training on earnings when there is endogenous selection into the training program). This paper gives a play-by-play of the problems researchers who are attempting to analyze interventions in an economic setting are likely to face, and ought, therefore, to be read before engaging in such an endeavor. For each such problem (heterogeneous responses and training by agents, contamination and measurement error in training status and other observables, choice-based and other nonrandom sampling schemes, time inhomogeneity of the environment), the authors consider assumptions which lead to identification with both dif-

ferent types of data (cross-section, repeated cross-section, and longitudinal) and different observables available for the analysis. Several conclusions emerge, among them that the assumptions required for identifying the mean training effect from longitudinal data are similar to those required to identify it from repeated cross-sections. They also note that if there is a distribution of training effects, the coefficient estimated is the mean effect of training on those who were trained (an effect whose value will change with differences in the selection procedure).

The papers discussed thus far use economic theory more to motivate a class of problems that arise in obtaining estimates for a standardized structural form than to derive the estimating equations from lower level assumptions on the environment and behavior. This strategy has the advantage of providing a basis for comparisons (among alternative econometric and theoretical arguments, as well as between different data sets), and therefore provides a useful, perhaps necessary, first step in any analysis. There is some trepidation however, about our ability to push structural modeling further than this. Partly this is a result of the fact that, for many problems, there is no widespread agreement on the appropriate theoretical structure, and the list of possibilities has simply grown too large to nest them all into one framework. Moreover, theoretical arguments do not provide detailed information on functional forms (though they may provide conditions which a consistent structure must satisfy), and it would simply be too difficult (if not impossible) to provide estimates for the more complicated structural models without appending to them somewhat arbitrary functional form assumptions. On the other hand detailed theoretical modeling has the advantage of specifying how the interrelationships between different pieces of information can be brought to bear on the problem, and, in addition, provides a clear, internally consistent, interpretation of the parameters being estimated. Thomas MaCurdy's chapter, "Interpreting Empirical Models of Labor Supply in an Intertemporal Framework with Uncertainty," moves a step towards more detailed structural modeling. There is some general agreement on the appropriateness of the life-cycle model for labor supply and MaCurdy fills

in more detailed assumptions where necessary (the form of the utility function, the sense in which the budget constraint must hold, etc.). As a step towards accounting for the characteristics of the data, he complicates an already complicated stochastic control model by allowing for unobservable individual specific heterogeneity, but then eschews obtaining a complete solution for the model in favor of an approximation on the stochastic process generating the marginal utility of wealth. This allows him to form an estimating equation which interprets estimates of the intertemporal substitution elasticity from a variety of different types of data. There has been more work on structural econometric modeling of dynamic decisions since MacCurdy's paper, but we are still very much at a stage where results depend on precise functional form assumptions, and where many of the disturbance processes that we think are important cannot be incorporated.

A different attack on this problem is provided in an innovative paper by Halina Frydman and Burton Singer, "Assessing Qualitative Features of Longitudinal Data." They are able to use De Finetti's discussion of exchangeability and partial exchangeability to construct simple tests for the consistency of data with a broad class of discrete choice models—a class that is not sensitive to the functional form of the disturbance and unobservable distributions. They also provide a distribution free test for compatibility of first passage time data with a class of stochastic differential equations that can be generated from a continuous time specification of utility dynamics. This paper pushes us away from functional form dependence in the interface between economic theory and certain types of structural econometric models. There is still, however, a large gap between obtaining test statistics for the relevance of a class of models, and obtaining meaningful estimates for the responses of interest.

I have only covered the articles in the Econometric Studies section, and just the central points in them. This is due solely to a combination of space limitations, and my perception of the *Journal's* readership. Actually this book ought to be a welcome addition to the libraries of most social scientists and applied statisticians.

ARIEL PAKES

220 ECONOMIC AND SOCIAL STATISTICAL DATA AND ANALYSIS

Comparative national balance sheets: A study of twenty countries, 1688–1978. By RAYMOND W. GOLDSMITH. Chicago and London: University of Chicago Press, 1985. Pp. xvii, 353. ISBN 0-226-30153-2. JEL 87-0108

While national income and product account estimates are regularly compiled in most countries and are easily accessible, this is not true of national balance sheet statements. This book presents and analyzes national balance sheets for twenty countries for selected years since 1950, and extends balance sheets back into the nineteenth century for ten countries.

The book contains four chapters and three appendices. Chapter 1 summarizes the main analytic points observed in the study of the balance sheets, attempts to extend the known balance sheets to a planetary basis, and studies the growth of national assets, asset/production ratios, and the financial interrelations ratio—the ratio of financial to tangible assets. Five principal results are stated: (1) In the late 1970s tangible assets accounted for three-fifths of planetary assets and financial assets accounted for two-fifths; (2) among developed market economies, there was a sharp reduction over the past century in the share of farm land and livestock in the national wealth, a rise in the share of financial assets in total assets, and an increase in the share of financial institutions in financial assets; (3) the creation of a modern financial superstructure was generally accomplished at a fairly early stage of a country's economic development; (4) economic development was accompanied by a more than proportionate expansion of the financial superstructure in the early and intermediate stages, and by a parallel expansion of the size of the infrastructure and the financial superstructure in mature modern economies; and (5) financial institutions are now either holders or issuers of one-half or more of financial instruments in market economies.

Chapter 2 discusses the conceptual problems involved in creating national balance sheets. The conceptual problems discussed are: The scope of the balance sheets in terms of assets; the classification of assets and liabilities; sectorization; valuation, and selection of benchmark dates.

balance sheets for the twenty countries. For tangible assets the discussion is organized around the distribution of tangible assets among land, residential structures, nonresidential structures and equipment, inventories, livestock, and consumer durables. For financial assets, the discussion is organized around the share of the various types of financial assets in total financial assets.

Chapter 4 focuses on the use of sectorized balance sheets for six countries. In the first part of this chapter, assets, liabilities, and net worth are generally analyzed in terms of the share of each sector in the national total of each type of asset, liability or net worth. In the second section the balance sheet structure of each sector is analyzed in terms of similarities or differences between countries.

Appendix A shows the national balance sheet for each of the twenty countries with percentage shares of national assets; the total values of national assets are also shown denominated in the country's currency so one can record the balance sheet in monetary form if desired. Appendix A also highlights secular developments in each country's balance sheet and gives either detailed notes on the derivation of the estimates or gives references to other works by Professor Goldsmith where the detailed derivation for the balance sheets of some of the countries may be found.

Appendix B gives the sectoral balance sheets for six countries. Appendix C discusses briefly some statistical difficulties encountered in estimating some of the balance sheet components.

This book is a pioneering venture. Only three countries have published official national and sectoral balance sheets for a few recent years. Professor Goldsmith compiled the balance sheets for the seventeen other countries and extended as many of them as he could back into the nineteenth century.

I find it disheartening that there should be a need for a pioneering venture of this type so late in the day. The fact that national and sectoral balance sheets are not part of the regular statistical output of the economically developed countries needs to be explained, but the author does not address this.

Professor Goldsmith's work over the past 40 years shows that it is not impossible to derive national and sectoral balance sheets. The problem is that the profession has not made the

case that an addition of balance sheets to our statistical program would assist economic policy makers in ways that would justify the costs. If we were seriously to pursue the goal of timely annual balance sheets, the costs would require substantial additions to our statistical programs in terms of data collection, and analyses.

To test the usefulness of this information, I reviewed the balance sheet of the United States in 1929 to see if anything was so seriously out of line with prior experience that an analyst might have concluded that the debacle of the Great Depression was possible (Table A-22). The only asset whose share in total national assets was out of line was corporate stock, which at 19.4 percent of national assets was far above its share in earlier years or in other countries. Knowledge that stock market values had outstripped the value of tangible assets might have warned the policy makers to limit the speculative borrowing that was fueling the stock-market.

This book is a useful addition to our knowledge. It shows balance sheets can be compiled. Further it shows that balance sheets can be useful in pinpointing speculative excesses—a role that can only be enhanced by having annual balance sheets with detailed sectors available. Professor Goldsmith deserves our thanks for this. Now it is up to the profession to see that the balance sheets are added to our regular statistical program.

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300 Domestic Monetary and Fiscal Theory and Institutions

310 DOMESTIC MONETARY AND FINANCIAL THEORY AND INSTITUTIONS

The industrial organization of futures markets.

Edited by RONALD W. ANDERSON. Lexington, MA and Toronto: Heath, Lexington Books, 1984. Pp. vii, 312. \$28.50. ISBN 0-689-06836-5. JEL 84-1069

In the last decade, the popularity of futures markets has soared as contracts in new product areas have been introduced. Accompanying this emerging importance has been a significant increase in attention from the media, contract users, academics and regulators. While much

of the literature published has been of the "how-to-use-futures" nature, this volume is not; it presents several academic economists' contributions toward a theoretical framework for analyzing futures market performance and regulation. Although this book would prove interesting to anyone concerned with applications of industrial organization topics, its major thrust is further study of futures markets. The nine chapters consist of versions of papers and comments presented at a November 1982 conference sponsored by the Center for the Study of Futures Markets at the Graduate School of Business, Columbia University.

When contemplating a foray into futures trading (or the trading of any financial instrument, for that matter), one might first ask whether the market is truly competitive. We might be tempted to answer yes as Ronald W. Anderson and Mahadevan Sundareshan note that, "the fact that anyone may buy or sell futures contracts for homogeneous goods in centralized markets at publicly quoted prices suggests that these markets come close to fulfilling the standard criteria for perfect markets" (p. 75). However, necessary consideration of the arbitrage connections between cash and futures markets reveal market characteristics that preclude a quick resolution of the issue. For example, futures contracts for crude oil, cocoa, coffee, and copper illustrate cash markets that are characterized by dominant producers. In addition, one might argue that institutional investors and securities dealers have better information than the general public concerning the order flow for financial instruments—an advantage which could prove useful in trading contracts based on Treasury bonds or the Standard and Poors 500 stock index. Therefore, assessing the performance of futures markets warrants the use of models that incorporate agents with market power.

All chapters (except 1 and 7) develop models of futures trading based on market structures with various imperfections. They differ mainly in their assumptions regarding the characteristics of market participants, the information possessed by market participants, risk preferences, timing of market clearings, and alternative hedging vehicles (or alternative markets in which to exercise market power). David M. G. Newbery examines futures trading for a non-storable commodity produced both by a risk-

neutral dominant firm and many small, risk-averse competitors. The geometric restatement of the model by Lawrence J. White is extremely clear and significantly improves our understanding of the interesting results. Louis Phlips' comment extends the discussion to storable goods. In Chapter 3, Anderson and Sundareshan return to the case of a futures market for a perishable commodity, but limit production to a monopolist's output level. In Simon Beninga's chapter, hedgers have an informational advantage—knowledge of their futures commitments. They use this market power to influence futures prices by sending misleading signals to speculators. The source of imperfect competition in Albert S. Kyle's model is a futures market participant (the squeezer) who observes the quantity of contracts offered by hedgers *before* choosing his own trading position. Again, it is a restatement of the model in the comment by Stephen W. Salant, that is most readable. In Chapter 6, by Graciela Chichilnisky, all agents are aware that they have private information and thus recognize that they may have some market power to influence prices. This scenario is analyzed in a game theoretic context. Garth Saloner focuses on the monopoly power of the limited membership of futures exchanges. In Chapter 9, the most abstract of the volume, Robert M. Townsend examines general equilibrium models with asymmetric information and limited communication, and argues the role of government in implementing or coordinating trading.

Our *a priori* notion is that market imperfections will affect the economic functioning of the futures market in risk shifting (insurance), information and price discovery, providing liquidity, and/or reducing transactions costs. The book supports our intuition. The exercise of market power by Newbery's dominant producer (Ch. 2) reduces the volume of futures contracts traded and increases the spread between the futures price and the expected future spot price (compared with competitive behavior). In Kyle's model, hedging becomes more costly when squeezes can occur. In response, less hedging is done, more risk is borne, and consequently, less output is produced. The exchange members in Saloner's model charge commissions that capture the entire risk premium; consequently, "if the farmers' aggregate supply

function is increasing in price, a suboptimal quantity of the output will be provided in equilibrium" (p. 272).

Naturally, then, the book frequently turns to discussions of exchange innovations and/or government regulations designed to prevent the use of market power. Kyle examines limits on the size of positions held by traders, multiple deliverable goods, premiums or discounts for nonstandard delivery, and cash settlement of contracts; Newbery, Benninga, and Chichilnisky mention requiring full disclosure of actions by market participants; and Anderson and Sundaresan ask whether futures trading should even be authorized for commodities produced under imperfect competition. These topics suggest fruitful avenues for empirical investigation, of which there is none in this volume.

One of the features of futures market organization often cited in this volume as contributing to the ability to exercise market power, is the anonymity afforded by the clearing association. Besides facilitating trade among strangers, the other major role of clearing houses is ensuring the financial integrity of futures markets. In the only practical chapter, Franklin R. Edwards carefully describes and analyzes the function, organization, regulation, and mechanics of the not-often-understood clearing process. This excellent paper emphasizes the importance of this institution and examines some unresolved issues relating to the size and setting of margins, and the costs and benefits of consolidating clearing associations.

A recurring concern throughout the book is the possibility of and prevention of futures market "manipulation." However, as Anderson notes in his Chapter 1 survey, "neither common usage nor specific legislation makes clear what exactly is involved in a futures market manipulation" (p. 9). Thus it is not surprising that authors use the term to describe far different behavior. Thus Anderson's extensive review of this topic in Chapter 1 is a valuable contribution as is his overall perspective of this "new" area of research.

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United States interest rates and the interest rate dilemma for the developing world. By J. Pierre V. Benoit. Westport, CT and London: Greenwood Press, Quorum Books, 1986. Pp. xviii, 230. \$39.95. ISBN 0-89830-131-2. JEL 86-0739

The debate over interest rate policy in developing countries in the postwar period has generated much more heat than light. The same is true of the argument over the effect of the U.S. federal budget deficit on real rates of interest in world markets. Jean-Pierre Benoit, formerly a high official in the Haitian Ministry of Finance and now chief of the Fiscal and Financial Branch of the United Nations Secretariat, recounts the story of rising interest rates, first nominal then real, in the United States, describes their impact on developing countries, and considers appropriate interest rate policy for such countries. The implicit theoretical framework is neoclassical.

Benoit's book contains five loosely related essays. Chapter 1 starts with a summary of the historical debate over the effectiveness of monetary policy. It then describes the secular postwar rise in U.S. interest rates and comments on the tax treatment of interest. Benoit suggests that the tax deductibility of interest payments has reduced personal saving in the United States, but he provides no comparative evidence. He also describes the various tax measures designed to encourage foreign capital inflows to help finance the federal government deficit.

The final section of Chapter 1 turns to the interest rate dilemma facing developing countries. Benoit sees the dilemma as the choice between "a policy of artificially low interest rates that stimulates investment in unsound projects and the choice of capital-intensive technologies" and "allowing interest rates to be determined essentially by market forces that might result in interest rates rising so high that they would constrain productive investment" (p. 26). There is no reference to the recent experiences of Argentina, Chile, Turkey and Uruguay with excessively high real rates.

Chapter 2 reviews attitudes towards interest since antiquity. King Hammurabi of Sumer set maximum interest rates in his 1800 B.C. Code of 20 percent for silver and 33.3 percent for barley loans. The Code supported a wide variety of collateral, including wives, concubines and children (to be returned in good condition after three years use). Chapter 2 contains lengthy descriptions of attitudes towards charging interest in Judaism and Christianity. The bulk of the chapter, however, is devoted to Islamic views on interest. The historical introduction paves the way to a description of the current wave of Islamization of banking in most Islamic countries. Benoît attempts to explain the new interest-free banking arrangements. He touches on a few problems such as illiquidity due to the inability of Islamic banks to hold short-term treasury bills or to borrow on the interbank money market. Those interested in this particular topic might do better to read *Islamic Banking* by Zubair Iqbal and Abbas Mirakhor which contains a comprehensive bibliography. Documentation is not one of Benoît's strengths.

Chapter 3 turns to foreign debt. Benoît's historical excursions are really the best parts of this book:

Of the thirteen Greek states which borrowed from the temple of Apollo at Delos in the fourth century B.C., eleven defaulted and four-fifths of the loans were never repaid. Thereafter, the temple became somewhat disinclined to lend to sovereign borrowers, opting instead to make loans to individuals who could pledge land as collateral. (p. 93)

All too quickly this chapter reaches today's foreign debt problems. First Benoît describes the strategy of the creditor banks. Since they can no longer rely on gunboat diplomacy, their strategy is to push for a government bailout. The debtors' strategy is to persuade the countries of their creditor banks that they must share responsibility for the problem. Various meetings at which debtor countries have thrashed out their position are described in detail. Finally Benoît describes the creditor countries' attitude. Apart from the United States, the OECD countries blame the U.S. federal budget deficit and urge the United States to reduce it. Benoît sees the United States as inflexible but gives virtually no space to the Baker initiative.

The upshot of the debate appears to be one in which the developing countries seek a global solution while the OECD countries advocate a case-by-case approach.

Although Benoît favors a global solution to the debt problem, he is not soft on the developing countries. The last part of Chapter 3 proposes increased tax effort, more effective domestic resource mobilization, the eradication of corruption, and regional cooperation as the way out of the debt imbroglio.

Chapters 4 and 5 return to interest rate policies. Benoît distinguishes three approaches: the administered interest rate system, the modified administered interest rate system, and the market interest rate system. The administered interest rate system is characterized by low and inflexible institutional interest rates that frequently turn negative in real terms. Under the modified administered interest rate system, interest rates are still determined by administrative decision but are adjusted frequently in the light of market conditions. Since the market interest rate system is rarely encountered, much of this section is devoted to describing recent deregulation in Britain and the United States.

In the final chapter, Benoît equates the just interest rate with the market interest rate determined under perfect competition. He claims that this produces a real interest rate in industrial countries of 2 to 5 percent. Since the preconditions for such interest rate determination are absent in developing countries, he advocates the modified administered interest rate system. It should set real interest rates for short-term financial instruments in developing countries in the 2 to 5 percent range. Given capital scarcity in developing countries, however, real rates should rise to 15 to 20 percent on longer-term instruments. Indexation is the obvious solution for maintaining these appropriate real rates in the face of volatile inflation.

This is an old-fashioned book containing virtually no coverage of theoretical issues and very little empirical evidence to support the author's assertions. The scant source references is another troubling feature. Nevertheless, I enjoyed Benoît's historical vignettes and common-sense approach to policy issues. This well-written book should appeal to those wanting a well-balanced review of the debates over inter-

est rate policies and foreign debt in developing countries.

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REFERENCE

IQBAL, ZUBAIR AND ABAS, MIRAKHOR. *Islamic banking*. Washington, DC: International Monetary Fund, Occasional Paper 49, Mar. 1987.

Financial crises and the world banking system.

Edited by FORREST CAPIE AND GEOFFREY E. WOOD. New York: St. Martin's Press. 1986. Pp. x, 270. \$29.95. ISBN 0-312-28946-4

JEL 86-1084

The volume at hand contains six papers and associated comments from a conference at the City University, London. I would like to report that the papers add up to a serious contribution, but I cannot. The contributions are seriously flawed. A common assumption is that financial crises can be understood without explicitly considering the financial structure and the cash flows (wages, profits, taxes and foreign exchange earnings) that support the payment commitments of the financial structure: essential capitalist relations are not modeled. Thus the money supply appears as a variable in these papers, but the commitments that are undertaken as money is created are ignored.

Anna Schwartz' paper "Real and Pseudo-financial Crises" quite predictably assumes that monetarism is valid. Her aim is to show that "The hugaboo of financial crisis has been created to divert attention from the true remedies that the present financial situation demands" (p. 13). Real and pseudo-financial crises are distinguished: real financial crisis occurred because "no institutional framework was immediately available to deal with the surge of demand for high-powered money by the public and the banks" (p. 18); therefore "there is a well-understood solution to the problem: assure that deposits can be converted at will into currency whatever the difficulties the banks encounter" (p. 28). It follows that none of the episodes of the past twenty years qualify as true or real financial crises.

One of the precepts of monetarism is that Smith's invisible hand proposition is valid. But in Schwartz' account recent potential crises were transformed into pseudo crises by the visi-

ble hands of central banks and deposit insurers: appropriate intervention is stability enhancing.

"The Avoidance of Catastrophe: Two Nineteenth-century Banking Crises" by Roy A. Batchelor, introduces formal models of catastrophe and reactions to uncertain information in an endeavor to throw light on two nineteenth century episodes: the collapse of Overend, Gurney & Co. Ltd. and the liquidation of Baring Bros. A catastrophe theory approach to manias or bubbles leads naturally to an analysis that emphasizes cash flows, liability structures and the role of externally financed demand in determining income and employment. The ability to validate business debt by floating new debt has to be contrasted with the validation of debt by profit flows. Batchelor has a catastrophe occur when units systemically have to sell assets to obtain cash, but why this occurs only sometimes is not made clear. The question about why Gurneys was sunk and Barings was rescued is answered by noting that it was the "difference in political and personal relations between these institutions and the officials of the Bank of England which determined who should sink and who should swim" (p. 71). This conclusion does not rest upon the formal mathematical argument.

Teresa Seaborne's "The Summer of 1914," and Forest Capie, Terence Mills and Geoffrey Word's, "What Happened in 1931" examine two crises. The war crisis of 1914 was clearly not part of a normal business cycle. Cash flows were disrupted by hostilities and quite rationally the outbreak of the war made liquidity more valuable. The international flow of loans from Britain to roll over debtors was halted; as a result loans could not be repaid.

The suspension of specie payments, providing for subsidiary currency and measures to make institutions which were not receiving funds from enemy debtors "whole" enough to function resolved the crisis. The way it was resolved is not linked to later developments such as deposit insurance.

In 1931 Britain left the gold standard. Capie, Mills and Wood conclude that in 1931 "the world saw the consequences of central bankers not understanding central banking" (p. 144). I would go a bit further. Before central bankers can understand central banking they need to understand the economy. Behind the absence

of successful intervention in the 1930s lay a lack of understanding of the relation between government intervention to sustain profit flows and central bank intervention to contain asset price declines and shortages of liquidity. The same lack of understanding of the links between income production and the financial structure is still prevalent.

Hugh Rockoff's "Walter Bagehot and the Theory of Central Banking" is a model exercise in the history of thought. Bagehot is remembered for the prescription for central bank behavior in times of crisis "lend freely at high interest rates" (p. 160), but he also argued that it is necessary for a central bank to "protect the reserve when the market is merely apprehensive" (p. 161).

Rockoff makes it clear that a central bank has to be ready to "shift gears." It is the task of monetary theorists to instruct central bankers so that they know when to shift. This means that theory must identify indicators of the crisis-proneness of an economy. Neither Rockoff nor any of the other contributors tell us how this identification is to be made.

In "Financial Crises, Banking Crises, Stock Market Crashes and the Money Supply: Some Evidence 1870-1933," Michael D. Bordo identifies two main approaches to understanding financial crisis. The monetarist approach of Friedman, Schwartz and Cagan and an alternative real cycle approach identified with Fischer-Minsky-Kindleberger. The latter

regards financial crisis as an essential part of the upper turning point of the business cycle—as a necessary consequence of the previous boom. The modern proponents, Minsky and Kindleberger, basically extend the views Irving Fisher expressed in *Booms and Depressions* (1932). (p. 197)

Certainly Minsky, and I believe Kindleberger, would argue that they are integrating insights from Fisher and from Keynes' *General Theory*. In my understanding the Minsky-Kindleberger theory combines an investment theory of business cycles, a financial theory of investments, and the explicit modeling of financial structures as payment commitments. Wages, profits, rents, taxes and the foreign balance are the sources of funds to fulfill these commitments, and these "sources" in turn depend upon the extent of new debt or other

the explanatory performance of a Friedman-Schwartz and a Kindleberger-Minsky model by analyzing purely monetary relations is inept: the two models require quite different data bases for testing.

To conclude, the papers are interesting for the topics they raise rather than for their analytical frameworks or their conclusions.

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Futures markets: Their economic role. Edited by ANNE E. PECK. AEI Studies in Government Regulation. Washington, DC: American Enterprise Institute for Public Policy Research, 1985. Pp. xiii, 325. \$21.95. ISBN 0-8447-3592-2. JEL 86-0754

Futures markets: Regulatory issues. Edited by ANNE E. PECK. AEI Studies in Government Regulation. Washington, DC: American Enterprise Institute for Public Policy Research, 1985. Pp. xiii, 376. \$24.95. ISBN 0-8447-3593-0. JEL 86-0753

Since their start more than one hundred years ago, organized futures markets have frequently been misunderstood and denigrated. For example, in the 1890s they came within a hairsbreadth of being outlawed. They alone must justify beforehand that a new instrument benefits the economy rather than relying on the actual desire for trading to prove their case. This scrutiny extends to the Federal regulatory agency, the Commodity Futures Trading Commission, that oversees futures markets. Part of the legislation renewing the CFTC in 1982 authorized studies on the purpose of futures markets, especially the emerging financial futures, and their interaction with existing securities markets. These two volumes, with essays by many of the leading scholars of futures and securities markets, are meant to complement the government's studies.

These companion volumes comprise thirteen self-contained essays. For the most part the essays review the literature, such as that on live-stock futures. Written with the nonspecialist in mind, most emphasize verbal descriptions. There is a minimum of formal modeling or statistics.

Among the reviews of the literature, the ones by Anne Peck on traditional agricultural futures markets and by William Silber on financial futures markets stand out. Peck's survey of the

presents, among other subjects, how futures markets guide intertemporal allocations and how actual holders of inventory seem to follow well behaved supply-of-storage curves. Silber argues that the main advantage of financial futures is their extremely low transactions costs, even when measured against other security markets. According to his perspective, a manager of a pension fund can reduce quickly and inexpensively his proportion in equities by selling stock-index futures contracts rather than the myriad different issues in the fund's portfolio. Silber's essay would make an excellent introduction to a segment on financial futures in an advanced undergraduate course on financial markets or on money and banking.

Two essays will interest a specialist in futures markets for their new empirical evidence on some old issues. William Tomek studies whether the exchanges have set initial margin (a good-faith deposit) high enough to ensure the integrity of contracts. He finds that from 1970 to 1982 the exchanges were, if anything, too conservative in setting margin, hardly evidence that the government should supersede them. He also finds only weak evidence that changes in the level of margin influence either the volume of trading or price volatility, and what evidence there is could just as well be interpreted as the changes in price volatility determining an exchange's initial margin, as they should. Thus, Tomek concludes that even if it is desirable for the government to dampen speculation, its control of initial margin would provide far too crude an instrument.

Dennis Draper offers a portrait of nonprofessional traders, based on surveys conducted by *Barron's* and the Chicago Board of Trade. Previous research based on the patterns in the accounts at single brokerage firms had suggested that the typical small trader was undercapitalized, uninformed, and remained in the market only until he had been shorn by the professionals. According to the two new surveys, the small traders typically hold considerable other assets, are well educated, and remain in the market for extended periods, often switching brokerage houses in the process. They appear to be well aware of the risks. Draper concludes that this picture indicates not so much that protection of small investors is unnecessary, but that recent efforts, required by the government of all commission houses, at screening customers and

disclosing the risks associated with futures trading have worked as intended.

The one essay adding to formal theory is by Jerome Stein on financial futures' effect on capital formation. Stein models how a risk-averse dealer in bonds or a risk-averse originator of mortgages will change its bid-ask spread or origination fee with the possibility of hedging on the futures market. He is in effect arguing that the primary advantage of financial futures is an expansion of the possible portfolios available to such agents. Thus, Stein has a perspective opposite from Silber's. That two scholars can make such different, yet coherent and plausible, cases for futures markets makes one suspicious of any regulation of the markets implicitly depending on a particular view of their function.

Many of the essays touch on regulatory issues, including Allen Paul's study of settlement of contracts by cash rather than a physical commodity. Yet the two volumes do not divide clearly, as their titles imply; they need to be bought as a pair. For example, Charles Seeger's account of recent government concern about financial futures, including the battles for turf between the CFTC and the SEC, is in the second volume, while reflections by Philip Johnson, the former chairman of the CFTC, on those battles is in the first volume. For his part, Johnson offers a new reason for the limits of regulation. He argues that well meaning people, especially those with only a superficial understanding of the markets and regulatory system, assign impossible tasks to the regulators, such as requiring the CFTC to police fly-by-night "boiler-rooms" selling commodities to the gullible and greedy. Tarnished by the inevitable failure, the regulatory agency is unable to accomplish those tasks for which it is suited.

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320 FISCAL THEORY AND POLICY; PUBLIC FINANCE
Economic choices, 1987. By HENRY J. AARON
ET AL. Washington, DC: Brookings Institution, 1986. Pp xii, 126. \$22.95, cloth; \$8.95,
paper. ISBN 0-8157-1040-2. JEL 86-1096

Six authors, among them Joseph Pechman, Alice Rivlin, and Charles Schultz, all with high-level experience in government, take collective responsibility for this volume. It follows

a similar Brookings book, *Economic Choices*, 1984 edited by Rivlin, that was published during the election campaign. The present work contains four essays pulled together by an overview chapter. They lay out major options for macroeconomic policy, deficit reduction, tax structure, and the budget process and make recommendations in these areas. Since the work is patently more one of advocacy than analysis, there is no point to dwell on any of its biases. It is an unavoidable professional hazard of those who dispense policy advice that they must be convinced of their ability to point the nation in the right direction. Hence I will describe, but not take issue with that advice and then comment on the manner and coherence with which the advocacy is conducted.

The budgetary choice favored by the authors is to achieve the Gramm-Rudman-Hollings (GRH) deficit reduction targets through fiscal 1989 with a different mix of fiscal measures than the automatic spending cuts mandated under that law when all else fails. The book, written well before passage in October of the Tax Reform Act of 1986, recommends instead a mixture of tax increases and widespread, but unequal spending cuts from a hypothetical baseline level. That level is estimated with two major adjustments (p. 54) from projections published by the Congressional Budget Office in February 1986. For fiscal 1989, a baseline deficit of \$187 is contained in the five-year projections. To reduce this to the GRH figure of \$72 billion, the authors recommend that \$50 billion more in taxes, produced by raising income tax rates above presumed post-reform levels, be matched by about \$30 billion in defense cuts and a net reduction of \$20 billion in civilian spending. The remaining \$15 billion would come from less interest being owned on a smaller national debt. Apart from arguing for this "balanced" way of curbing the deficit, the study recommends procedural reforms designed to make budgeting more comprehensible and the process less time consuming.

All options, whether proposed from Brookings or by others, are spelled out fully and fairly, but then the process of persuasion begins. The authors tend to rest much of their case on propositions treated as self-evident and on values represented as widely shared. Having laid claim to representing the reasonable con-

sensus position—one containing elements "seen even by many conservatives" (p. 61)—they appeal to its authority to judge other positions. Some readers will resent being led in this way; but generally this manner of advocacy is effective, allowing the volume to succeed on its own terms.

Before the book proceeds carefully to consider the tax and spending measures by which the deficit is to be reduced from the baseline, it presents macroeconomic analysis described as "inexorably" (p. 46) pointing to the need for deficit reduction. This provides an opportunity to assess the coherence of advocacy. The authors believe that, under present circumstances, there is a large degree of offset between changes in national saving and the external balance. Thus reducing saving increases the current account deficit, leaving little effect on economic activity. An extreme form of this result is familiar from the Mundell-Fleming analysis according to which fiscal stimulus is ineffective in a small country under flexible exchange rates with international equality of interest rates. Applied in reverse it means that moves toward lower fiscal deficits are not likely to jeopardize continued economic recovery from the demand side as they raise long-term capacity for growth from the supply side. Instead, curbing fiscal deficits and adding to national saving, by reducing interest rates and the exchange value of the dollar, would raise both domestic investment and net exports.

Should fiscal deficits continue unchecked, the dollar would also come down as foreigners become less eager to acquire dollar claims (p. 25). However, the induced rise in net exports would then have to be largely at the expense of domestic investment. Real interest rates and expected inflation rates would rise in a process of crowding out.

This analysis, which involves several scenarios in which an unidentified measure of the exchange value of the dollar is projected to decline by 15 percent during each year from 1986 through 1988, is uninhibited by J-curve effects and considerations of market efficiency. It contains one or two incompletely explained and possibly misleading measures such as the U.S. current account balance at high employment. Nevertheless, the reasoning is probably adequate for deducing prospects under different

fiscal scenarios, provided flow rates and prices do not change abruptly.

Overall the book represents a distinguished entry in the struggle to reassert fiscal responsibility through well-supported, itemized decisions. Irrespective of whether one favors this particular champion, it is a joy to see one fighting so well and fair for deficit reduction and selective measures to achieve it. However, because some targets have moved or perished, before the 1988 election a new volume on economic choices will be needed to uphold the quality of a debate that has few other reliable supports. As the year-old volume suggests (p. 111), things are increasingly done in government that none of the participants professes to want.

GEORGE M. VON FURSTENBERG
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How real is the federal deficit? By ROBERT EISNER. New York: Macmillan, Free Press; London: Collier Macmillan, 1986. Pp. xvi, 240. \$17.95. ISBN 0-02-809430-5.

JEL 87-0140

According to recent opinion polls, the public considers the federal deficit to be a grave national problem. Consequently, the deficit, which has always been a political issue to some extent, is now a hot one. Politicians seem to agree that deficits are bad, that the current one is much too large, and that it must be reduced. They disagree only on who is to blame, on whether taxes should be raised or spending cut, and if spending is to be cut, what categories should be targeted.

Robert Eisner argues that deficits should not now be a major political issue. His argument has two parts. First, when the federal deficit is correctly measured, it has not actually been large. Indeed, until recently, the budget has usually been in surplus. Second, when the economy is operating with slack as it is now, deficits are desirable because they raise aggregate demand, thereby increasing output. Therefore, present fiscal policy is basically sound. The federal budget deficit should be reduced only as the economy approaches full employment some years hence.

The official measure of the federal deficit is the change in the nominal par value of the federal debt. Eisner argues that the correct mea-

sure is the change in the real market value of the federal debt. The two measures differ whenever the price level or the level of nominal interest rates changes. Since the late 1960s, the difference has been substantial because inflation and rising nominal interest rates have eroded the real market value of previously issued government debt.

Eisner characterizes the U.S. economy as follows: if it is operating with slack, aggregate demand determines output, and the price level is predetermined; monetary policy determines the level of nominal interest rates; and households treat the real market value of government debt as net wealth. In this Keynesian economy, Eisner's measure of the federal deficit is the principal instrument by which the federal government can influence aggregate demand: a policy action that raises his measure will increase output. In contrast, aggregate demand need not be closely linked to the official measure. For example, an increase in the "animal spirits" of oil exporters could increase the inflation rate and thus the official measure while lowering aggregate demand. Alternatively, a tight monetary policy would increase nominal interest rates and the official measure but would decrease Eisner's measure.

If Eisner's characterization of the U.S. economy is invalid, his measure of the federal deficit is invalid as well. Suppose that the following model characterizes the U.S. economy: the price level is determined by anticipated aggregate demand; households treat the government debt as net wealth; and monetary policy fixes the fraction of government debt that is monetized. In this model, the official deficit is the correct measure because the nominal government debt plays exactly the same role as the nominal money supply plays in monetarist models. The official measure is clearly preferable to Eisner's for highly inflationary economies. For example, adopting Eisner's definition would lead one to the absurd view that in 1923 Germany had large surpluses and its hyperinflation resulted from animal spirits.

Suppose instead that Ricardian equivalence holds. In this case, the correct measure of the deficit is always zero because the time precedence of tax revenue does not affect aggregate demand. The instruments of fiscal policy then consist of the amounts the government spends

and will spend, the composition of its spending now and in the future, and the structure and time profile of its marginal tax rates. The current budget debate is therefore as much to the point as any political debate is ever likely to be.

The second part of Eisner's argument uses an old-fashioned variant of the Keynesian model. In this model, output is almost always less than its full-employment level and consequently depends primarily on aggregate demand which affects the price level only if full employment has been attained. Intelligent policy therefore raises aggregate demand when the economy is operating with slack and judiciously lowers it in the rare event that full employment has been attained and inflation is a problem. Such a policy yields a permanent economic high.

Modern Keynesian models assume that economic agents have rational expectations when setting money wages and prices. Because money wages and prices are temporarily rigid, systematic aggregate-demand policy can stabilize output around its natural level. Rational expectations, however, prevent the gap between output and its natural level from differing from zero on average. In other words, systematic aggregate-demand policy cannot produce a permanent economic high. Rather, its principal permanent effect is on how the price level evolves. Therefore, the second part of Eisner's argument is invalid in modern Keynesian models.

The book contains four chapters of empirical evidence supporting Eisner's position. For example, Eisner argues that output grows more rapidly, the larger is his measure of the federal deficit. As evidence for this position, he reports regressions of the growth rate of output on his measure of the federal deficit and on other variables. He finds that the coefficients on his measure of the federal deficit are positive and statistically significant. It took me only two minutes of empirical work, however, to produce similar regressions in which Eisner's measures are not statistically significant. My point is not that output is unrelated to Eisner's measure of the federal deficit but rather that his estimates are not robust to minor specification changes and therefore provide little, if any, evidence for his position.

In conclusion, if money wages and prices exhibit appreciable short-run stickiness, one can make a reasonable case that the official measure of the federal budget deficit is faulty and that Eisner's measure is superior. Therefore, this book can contribute to improved policy making if it teaches politicians this lesson. The rest of the book, however, is a throwback to the 1960s. It would indeed be ironic if this is the part of the book that ends up most affecting future policy making.

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400 International Economics

Selected essays of Gottfried Haberler. By GOTTFRIED HABERLER. Edited by ANTHONY Y. C. KOO. Cambridge, MA and London: MIT Press, 1985. Pp. xi, 652. \$65.00 ISBN 0-262-11105-5. JEL 86-0771

When the present reviewer first studied economics, at the University of Rangoon in the early fifties, there were two books that every "honors" student was expected to have some familiarity with. These were *Prosperity and Depression* and *The Theory of International Trade*, both by Gottfried Haberler. Both books were already established classics for a couple of decades. Students today have other, more technical reference works that they are expected to master, both in macroeconomics and international economics, but I cannot help feeling that they would still benefit enormously by some acquaintance with the mind of this truly great economist as revealed in those two classics and in the present generous selection of Haberler's essays, edited by Professor Anthony Koo. Among some of the things that they would learn are that logic and rigor in economics can be sustained at the highest level without recourse to extensive mathematics and that economic theory has to be used in combination with a knowledge of history and institutional context if it is to illuminate the problems of the real world.

This massive volume contains 27 essays, ranging in time from a 1925 essay translated from the German on Schumpeter's theory of money to several very recent pieces on macroeconomic and trade problems, including a thoughtful

evaluation of the rational expectations approach to macroeconomics, which is the last chapter of the book. The papers are distributed fairly evenly over the decades from the thirties to the eighties. If anything, there are signs of an acceleration in the seventies and eighties in the valuable bibliography of his writings that the volume includes. There are five sections, arranged by topic, with about a dozen papers each on international economics and macroeconomics and three on economic development.

The opening section on International Trade contains some of Haberler's most famous contributions. The first chapter is a translation of a 1930 German essay which replaces the linear Ricardian model of comparative cost with the modern concave production possibility frontier, which Haberler derives from the hypothesis that factors of production are, at least to some extent and especially in the short run, "specific" to particular sectors of the economy. This approach was formalized mathematically forty years later by Ronald Jones and Paul Samuelson, who called it the Ricardo-Viner model. It would not be inappropriate for Haberler's name to be added to this distinguished lineage. Indeed, a case could be made that his "opportunity cost" approach is more in conformity with the spirit of this model than the "real cost" approach of Viner.

Chapter 3 is the celebrated 1950 *Economic Journal* article on "Some Problems in the Pure Theory of International Trade." This pearl was the product of irritation initiated by Thomas Balogh's belief that the familiar list of unrealistic assumptions usually made in expounding the theory of comparative advantage and the associated case for free trade are logically necessary for the validity of the conclusion. Haberler carefully examines several cases in which these simplifying assumptions are removed. In the process he may be said to have initiated the extensive literature on trade and trade policy in the presence of domestic "distortions" of various sorts in the markets for goods and factors that was developed in the sixties after a major contribution by Jagdish Bhagwati and V. K. Ramaswami.

The 1958 *Princeton Survey of International*

Trade Theory is published as Chapter 4. It still makes interesting reading in spite of the considerable theoretical developments that have taken place subsequently. A very thorough exposition of the "elasticities" approach to devaluation in a 1949 *Kyklos* paper is the analytical centerpiece of the next section on International Finance. Joan Robinson and Fritz Machlup were the pioneers on this topic but Haberler carried the analysis much further. It is regrettable that there is no postscript to this article, connecting it to the subsequent "absorption" and "monetary" approaches. Haberler distinguishes his analysis from the purely "real" Marshallian "reciprocal supply and demand" model by saying that he is concerned with demand and supply in terms of *money*, but the exact nature of the monetary assumptions that he makes is not clear. The literature still appears to be lacking a systematic exposition of the relationship between these diverse treatments of exchange rate devaluation.

Haberler is characteristically wise and insightful in several recent policy pieces on such topics as the impact of oil shocks and role of floating exchange rates, of which he has continued to be a vigorous advocate, given the world of downward nominal price rigidity that he believes we live in. His general macroeconomic position is firmly in the middle ground between Keynesians on the left and "new classicals" on the right. The last essay in the volume contains a succinct evaluation of the limitations of the more extreme formulations of the rational expectations position.

While it is possible to think of other authors for each of the essays reprinted in this book, Jacob Viner say for some of the trade pieces or William Fellner for some of the macro items, the only possible author for the volume as a whole is the man who wrote *Prosperity and Depression* and *The Theory of International Trade*. The generation of economists that was not brought up on those two classics can perhaps be led back to them by sampling some of the rich fare that this splendid collection has to offer.

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430 BALANCE OF PAYMENTS;
INTERNATIONAL FINANCE

The political economy of international monetary interdependence. By KOICHI HAMADA. Translated by CHARLES YUJI HORIOKA AND CHI-HUNG KWAN. Cambridge, MA and London: MIT Press, 1985. Pp. ix, 187. \$22.50. ISBN 0-262-08154-7. JEL 86-0794

This appropriately-titled book uses a series of sensible models to explore economic interactions between countries under alternate exchange-rate regimes. The models are simple ones, the algebra and notation are neat, and the language and logic are clear, so the reader is exposed to an effective demonstration of how to use game theory and adaptive expectations macro modeling techniques to derive relevant policy conclusions.

Chapter 1 describes the plan of the book. Chapter 2 lays out the basic options for the structure of the international monetary system, with a discussion of how game theory can be useful in thinking about these choices and an appendix discussing important elements of game theory.

Chapter 3 analyzes the formation of a currency union as an example of the provision of a public good. The author argues that when a nation joins a monetary union, it suffers certain costs (e.g., lessened ability to inflate at the desired level) in order to create a public good (e.g., reduced transactions costs). He then argues that the fact that the benefits of the public good are spread out among all of the members of the currency union will mean that monetary union formation will cease before optimal size is reached. This analysis seems flawed to me. When one more country joins the currency union, each current member and the prospective member all bear costs, and they all share the public good. Thus it is hard to find a systematic bias against the optimal size of the union here. To get such a bias, one must assume that the prospective members are discriminated against in the macroeconomic policy-making process and (as the author explicitly assumed) that efficient bargains are explicitly ruled out (e.g., join me in a currency union and I will take over more of your contributions to NATO). The author points out other reasons for the suboptimal size of monetary unions: the fact

that the costs are immediate and concrete (e.g., loss of sovereignty) and the macroeconomic benefits are speculative and deferred (e.g., the increase in efficiency that a common currency brings). However, if one thinks of the transactions cost inflicted by a floating exchange rate as a tax on transactions between the country and the currency area, it stands to reason that the smaller unit will bear most of the incidence of that tax. Thus it may well be that the new entrant will be the major recipient of the collective benefits from joining, so that suboptimality flows from failure of the initial members to get their just deserts.

However, one must certainly grant the author the more general point that when cooperation bestows benefits and costs asymmetrically, and compensation is ruled out, there will be too little cooperation, and that to facilitate cooperation mechanisms are needed to apportion the costs of cooperation appropriately among the beneficiaries (e.g., a common government).

Chapter 4 builds a model of monetary policy games with fixed price economies under fixed and flexible exchange rates with governments that care about the level of output, and under fixed exchange rates about the level of reserves as well. The analysis is used to demonstrate that under fixed exchange rates cooperation is needed to get onto the contract curve, but under flexible exchange rates, since countries have been freed from the need to be concerned about reserve levels, output levels in both countries will be optimized even without cooperation.

Chapter 5 analyzes policy games in a world of full employment and fixed exchange rates in which each government cares about the rate of change of nominal reserve stocks and the inflation rate. Conclusions are then drawn about the optimal rate of creation of international reserves.

One minor blemish is that the second term in the utility function on page 86 is not the rate of normalized real reserve growth as the author claims except when reserves are at their target level. I can not come up with a sensible interpretation of that term, and think that a better term would be $\mu^e - \mu^*$, where μ^* is the target reserve/income ratio and μ^e is the equilibrium μ that would result if the rate of credit-based monetary growth remained un-

changed. Also, equation (5A.2) needs the addition of a factor $(1 - z)$ on the right-hand side where z is the actual ratio of reserves to money in the world. Since z varies over time, the correct solution of the differential game in this appendix is somewhat more complex than his version of it.

Chapter 6 is a particularly clear, useful, and easy to follow discussion of adjustment for a small open economy with an expectations-augmented Phillips curve and adaptive expectations under fixed and flexible exchange rates.

Chapter 7 explores the transmission of disturbances in the world of Chapter 6 when both countries are of comparable size. I have one hobby horse to ride here: In his discussion of the Laursen-Metzler effect the author ignores the point made by Tower and Willett in our (1976) Princeton Special Paper that consumption functions fixed in real terms perfectly insulate real consumption from foreign developments under flexible exchange rates when prices are fixed and capital is immobile. Then, a foreign contraction which worsens the home terms of trade means that more home employment is required to sustain the same level of real consumption.

Chapter 8 explores monetary independence under a managed float. The conclusion succinctly summarizes the major findings and forthrightly tackles the potential criticism that the book uses adaptive rather than rational expectations and has no bonds. In the postscripts, the author neatly ties his results in with other recent developments.

To conclude, this is a monograph which is well worth reading, particularly for those who seek an introduction to the use of game theory in modeling macroeconomic interactions between nations.

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500 Administration; Business Finance Marketing; Accounting

520 BUSINESS FINANCE AND INVESTMENT

Handbook of public economics. Volume 1. Edited by ALAN J. AUERBACH AND MARTIN FELDSTEIN. Handbooks in Economics series, no. 4. New York and Oxford: North-Holland; distributed in the U.S. and Canada by Elsevier Science, NY, 1985. Pp. xvii, 484. \$130.00, two volume set. ISBN 0-444-87612-x. JEL 86-1097

As Alan Auerbach and Martin Feldstein observe in the introduction to the *Handbook of Public Economics*, public finance as a field is defined more by its objectives than its techniques. In fact many of the rapid changes in public finance over the past quarter of a century constitute the application of modern theoretical and econometric techniques to old questions about the role and impact of the government sector. The reader will find these traditional questions and a few new ones as the subjects of the seventeen chapters in this two volume set. Volume I, containing eight of the chapters, is the subject of this review.

Volume I opens with a thoughtful chapter by Richard Musgrave on "A Brief History of Fiscal Doctrine." Brevity is a challenge since the issues of fiscal doctrine constitute a large part of early thought on political economy. In this introductory chapter Musgrave identifies five broad themes in the doctrine—public goods, equity in taxation, efficiency in taxation, the general equilibrium effects (including the incidence) of taxation, and the role and impact of government debt and deficits—and traces the development of the major ideas in each to the present time.

To some extent Chapter 2 by Alan Auerbach on "The Theory of Excess Burden and Optimal Taxation" is also introductory as it develops the

main normative apparatus used in public finance. Auerbach examines the burden of taxation and how it is measured using the Marshallian concept of consumers surplus and the Hicksian concepts of equivalent and compensating income changes. There is a detailed explanation, perhaps more than some readers wish to know, of the problems associated with measuring the burden in principle and practice. After this catalogue of difficulties, Auerbach leaves the reader largely on his own as to how and when such measures can be usefully employed and turns to the subject of optimal taxation where the main results of a rather voluminous literature are derived and explained clearly.

In Chapter 3 Dieter Bös presents a comprehensive survey of "Public Sector Pricing." First he derives the necessary conditions for the social welfare maximizing values of the controlled prices in a general framework and then he considers the special cases. The classical marginal cost pricing rules emerge in the absence of public enterprise profit constraints, cross effects on distorted markets and in the presence of optimal lump-sum redistribution. Profit constraints lead to Ramsey pricing rules, possibly involving distributional weights if lump-sum redistribution is not possible, while distortions in other markets lead to other second best results. The various inadequacies of piece-meal policies are also documented.

In contrast to the theoretical emphasis of the previous two chapters, Jerry Hausman states in Chapter 4 on "Taxes on the Labor Supply" that theory tells us little about this subject so it is time to do econometrics. Hausman surveys the econometric issues involved in estimating labor supply functions in the presence of taxes in some detail, so this chapter will be useful for researchers planning to work in this area. The chapter also includes a good survey of the various negative income tax experiments carried out in the U.S. There is a very limited discussion of the intertemporal aspects of the labor supply problem and nothing at all on issues such as occupational choice and human capital accumulation.

Agnar Sandmo has written a characteristically lucid account of "The Effects of Taxation on Savings and Risk Taking" in Chapter 5. In the first part of the chapter he recites the standard

life-cycle analysis of the effects on saving of an income tax on wage and interest income with and without variable labor supply, imperfect capital markets, bequests and uncertainty. There is a brief survey of the burgeoning empirical literature on this subject and also a brief section on social security and saving. Following an analysis of the optimal tax treatment of saving, there is a well-organized survey of the literature on taxation and risk taking.

Avinash Dixit focuses his Chapter 6, "Tax Policy in Open Economies," almost entirely on commercial policies such as tariffs and quotas, a subject that has long been ignored by public finance specialists, partly because it is analyzed in detail elsewhere and partly because the policy objectives of trade taxes are perceived to be different than those of other taxes. Although he provides a well-written survey of the literature on commercial policy, I expect that some readers will be disappointed that he ignores a number of conventional public finance issues such as taxes and migration, tax treaties, origin versus destination taxation, international tax harmonization, tax reform in open economies, and the taxation of multinational firms and foreign capital income.

Harvey Rosen has written a good chapter on "Housing Subsidies" in Chapter 7. He observes that the housing market is subject to a large number of government interventions and considers the possible efficiency and equity rationales for them. The main focus is on subsidies to housing provided through preferential tax treatment and housing assistance. He reviews the tax provisions relating to the demand and supply of housing in the U.S. (many of which are found also in other countries) that have substantially lowered the user cost of owner-occupied housing with effects on tenure choice, investment in housing, economic efficiency and the distribution of welfare.

The last chapter in this volume is a methodical discussion of the (mostly) theoretical issues in "The Taxation of Natural Resources" by Terry Heaps and John Helliwell. The authors leave few, if any, significant issues on this topic uncovered. The different types of resource taxes and the possible objectives for resource taxation are reviewed and the taxation issues arising in selected resource industries are discussed including fisheries as an example of the common

property case, forestry for a renewable resource with competing uses, mining for the optimal extraction problem, and energy as the best rent-collection case. Economists interested in public finance or natural resource economics will find this chapter useful.

A handbook reviewer is inclined to offer an opinion on whether a particular handbook has achieved its stated objective of being "a definitive source, reference, and teaching supplement." Since only the first volume is reviewed here a final judgment is premature. The editors have assembled an impressive group of authors for the two volumes, and the authors in Volume I did, on the whole, a good job of conveying the existing state of knowledge in each chapter. As in most books of this type, there is a tendency for the theoretically inclined authors to slight the empirical literature and vice versa. As for general coverage, it appears from the table of contents for the two volumes that the major topics in modern public finance are covered with the notable exceptions of the public debt and tax reform. It is odd (especially considering the interests of the editors) that the public debt, a classic public finance topic and currently a major policy issue, did not rate a chapter. The absence of a chapter on the issues so widely discussed in the tax reform movements in the U.S. and elsewhere is less puzzling since many of these issues are covered in the individual chapters.

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600 Industrial Organization; Technological Change; Industry Studies

610 INDUSTRIAL ORGANIZATION AND PUBLIC POLICY

Competition in a dual economy. By JOSEPH BOWRING. Princeton, NJ: Princeton University Press, 1986. Pp. vi, 208. \$25.00. ISBN 0-691-04234-9. JEL 87-0203

In this significant book, Bowring develops further the dualist view of the modern economy, using logic, history and statistical evidence. "Core" firms are large, stable, and profitable, and they commonly hold market power, whereas "peripheral firms" are small and powerless. Bowring aims only to establish that the distinction exists and is important, without go-

ing on to draw further lessons. The variety of evidence he presents is indeed inconsistent with dualism; and, as he notes, it undercuts the recent "efficient-market" claims that market power reflects only superior performance.

The book offers primarily a restatement of concepts and evidence in the industrial organization literature, plus new econometric tests relating corporate risk and return in the presence of various structural variables. After a concise introduction, Chapter 2 develops the concept of dualism, extending it from the earlier discussions by Galbraith, Averitt, Sweezy and others. The roles of absolute size, diversification, barriers to mobility, and risk and return, are adroitly discussed. A fundamental point is that core and periphery firms can coexist in individual markets. Therefore market power is a more sophisticated problem than is suggested by models based strictly on industry-wide degrees of monopoly.

Chapter 3 summarizes trends in the development of the core of large firms since 1900, stressing the rise of their concentration, diversification, stability and relative profitability. Chapter 4 attempts, less successfully I think, to contrast dualism with "the industrial organization tradition." In fact, Bowring's approach can be considered a variant within that mainstream analysis of market power. Rather, it is the recent "efficient market" approach that is eccentric in (1) assuming that markets have single homogeneous products, and (2) attempting to reverse the likely direction of causation while providing little supporting evidence.

In Chapter 5 Bowring surveys empirical evidence on the role of size, concluding that it supports the core-periphery distinction: "market power depends on both individual firm characteristics and on a group dynamic. They are equally important . . ." (p. 126). He also surveys the risk-return literature, to specify the core firms' access to higher quality (lower-risk) returns.

Chapter 6 presents Bowring's new analysis of IRS data on profitability and firm size, covering a sample of 154 small firms and a panel of all 572 firms which in 1969 had assets greater than \$25 million. He finds that profitability does differ between the two groups, after filtering out other influences. The reliance on yearly fluctuations of profits to indicate risk follows

common practice, but the problems of that short-term, retrospective and debatable index continue to be serious. Despite that, Bowring does offer consistent evidence based on commonly-accepted measures.

The whole effect is to give the core-periphery approach a firmer basis and to show how it conflicts (as does other mainstream evidence) with some of the more dubious recent claims about the nature of industrial organization. Yet the dualism hypothesis remains very much open to debate. For example, the superior position of core firms may have been substantially eroded by the evident instabilities among many large U.S. firms since 1970, as in steel, automobiles, and oil. There is certainly much more work to be done in showing the depth and margins of dualism and in drawing whatever implications it may have.

The writing is generally compact and balanced, and the evidence is nicely presented. The book is necessary reading for those interested in the role of large firms in the modern economy.

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Profits in the long run. By DENNIS C. MUELLER. Cambridge, New York and Sydney: Cambridge University Press, 1986. Pp. xii, 378. \$44.50. ISBN 0-521-30683-0. JEL 87-0214

Until recently, a widely accepted view in industrial organization was that (1) industry structure determines the profit performance of all firms in an industry and (2) above normal profits are attributable to monopoly power arising from high industry concentration. This view is supported by many structure-performance studies that found a direct relationship between industry concentration and profitability. Challenges to the traditional view have materialized from a reinterpretation of old results (i.e., it is argued that cross-section results reflect transitory high profits); emergence of contestable markets theory (a special case of the theory of potential competition); and evidence that market share is more important in explaining firm profits than is industry concentration. The new view concludes that abnormal profits cannot persist because of contestable markets and the Schumpeterian dynamic competition process, and that high profits (presumably transitory) in concen-

trated markets reflect efficiency of firms with high market share. Consequently, there is no basis for concern about industry structure. This challenge has delineated perhaps the most important issue, from a policy perspective, in industrial organization today.

Mueller addresses this issue head on in a major empirical study. The main purpose is to determine whether abnormal firm profits persist in the long run and, if so, what explains these profits. The emphasis is on the relative explanatory power of firm and industry characteristics. Most previous structure-performance studies used industry variables in a short-run context. The empirical work is based on a sample of 551 companies from the Federal Trade Commission's 1950 and 1972 line of business surveys.

The empirical analysis proceeds along two lines—a firm and an industry model—to determine whether industry structure or firm-specific factors better explain firm profits. As the analysis proceeds along these two lines, the author adds variables chapter-by-chapter. Sequential addition of variables into the estimating model is supported by theoretical models. Occasional use of individual company cases to illustrate general statistical findings is interesting and illuminating.

Chapter 2 rejects the hypothesis that profits converge to a competitive level over time. The author concludes that the competitive process is operating too slowly in eroding abnormal profits. The effort to explain the persistence of abnormal profits occupies most of the remainder of the book.

Chapter 3 examines market share (power) stability over time. High profit firms tend to have high market shares suggesting that high market share may persist over time. Analysis of the identity of leading firms, by industry, over time indicates that high market share tends to persist, like high profits. Leadership stability is found to be greatest in high concentration industries and is weakened by rapid industry growth.

Chapters 4 to 8 present tests for the determinants of firm profitability. Models including both industry and firm-specific variables have greater explanatory power than purely industry variables. Firm market share is a particularly important determinant of firm profitability but

firm advertising and patent intensity are not, although *industry* advertising and patent intensity are. Industry concentration has a negative effect on firm profits possibly, according to the author, because of increased nonprice rivalry. This interpretation is based on the finding that advertising and patent intensity, when interacted with market share, are positively related to profits.

Managerial control of a firm is negatively (weakly) related to firm profitability. Firm growth is highly related to profitability but neither firm size nor diversification are. Merger variables indicate no synergistic effects but a simple averaging effect—profits of highly profitable firms are brought down by mergers while the opposite holds for low profit firms. Further, mergers tend to weaken the retention of market shares of merged firms. This also suggests mergers do not yield synergy and further that they do not drive out bad management.

Overall, the author concludes that the competitive process does not quickly erode abnormally high profits and leading firms' market shares. First-mover advantages and nonprice competition are cited as alternatives to efficiency for explaining high shares and profits. This leads the author to question the general relevance of contestability theory and the Schumpeter-Galbraith hypothesis that positions of market power will be quickly eroded. Consequently, an active antitrust policy toward mergers and industries characterized by high concentration and firm market shares is proposed, with more emphasis on nonprice competition.

The book has some weaknesses. Most importantly, I do not believe it demonstrates definitively that market share yields market power or that high profits reflect market power rather than efficiency, although a highly plausible case is made. The negative concentration-profitability relationship finding is contrary to traditional and "revisionist" theory. Some variables are subject to rather serious measurement problems, which the author acknowledges. Finally, the book is probably unavoidably difficult reading because of the large amount of data used and numerous models and hypotheses tested.

In spite of its weaknesses, this book is an important contribution to the debate over the existence and persistence of market power. The

author deserves kudos for entering the debate with a major empirical study in contrast with the all too frequent studies that offer essentially a replication and reinterpretation of others' work. I believe this book, including the appendixes detailing intertemporal industry matching, will be the basis for numerous studies as others pick over the ideas and data, and seek to refine tests of various hypotheses.

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Federal Reserve Board

620 ECONOMICS OF TECHNOLOGICAL CHANGE

RCA and the VideoDisc: The business of research. By MARGARET B. W. GRAHAM. Studies in Economic History and Policy, The United States in the Twentieth Century series. Cambridge, New York and Sydney: Cambridge University Press, 1986. Pp. xiv, 258. \$19.95. ISBN 0-521-32282-0.

JEL 87-0224

Written in "real time" over the period 1976 to 1986 and based largely on interviews with key RCA research and corporate personnel, Margaret Graham's book documents the market failure of RCA's VideoDisc technology. Heralded by RCA for its simplicity, reliability, ease of use, and low-cost appeal, VideoDisc was targeted for the perceived average television viewer: a viewer less concerned with having a video player with fancy features and more interested in simply sitting in front of the television and being entertained with movies, past television hits, sports, music, and self-instruction programming. At the time of VideoDisc's introduction to the consumer market in March 1981, RCA anticipated that a system consisting of a player priced at \$499 and vinyl discs retailing at \$14.98 to \$24.98 would generate \$7.5 billion in annual retail sales by 1990. Having invested over \$200 million on the technology by the time of launch, RCA viewed VideoDisc as its legitimate best hope for the future. The gamble failed and failed miserably, however. Compared to three-year projected sales of 3 million players, only 550,000 players were sold. In April 1984, RCA discontinued production of VideoDisc players altogether after losing roughly \$580 million dollars on the technology.

Margaret Graham's book points to five important reasons why RCA rolled a pair of snake

eyes. In the first place, RCA seriously misjudged the competitive threat from video cassette recorders (VCRs). RCA's market research revealed VCRs to be theoretically superior to video disks. While VideoDisc users could only watch the programming prerecorded on the disks, VCRs allowed home entertainment consumers to record their own programming, reuse tapes, record when not at home, and watch one program while recording another.

RCA's market research indicated that VideoDisc would do well relative to VCRs only with a substantial retail price advantage: 35 percent of those polled preferred VideoDisc if the RCA system retailed for \$300 and Sony's Betamax system (the strongest VCR competitor) remained at \$700. Although the 35-percent preference figure may have been valid at the over 100-percent price differential, the price differential never materialized. VideoDisc prices did nothing but rise while VCR prices fell steadily for both hardware and software. Many VCRs now retail for under \$200 and blank cassettes can be purchased for under \$6.

Second, RCA misplayed the rent-versus-own marketing approach for video discs. The company's research had consistently indicated that home entertainment consumers preferred to own something rather than to rent it. RCA consequently shunned a rental strategy for discs and focused instead on being the sole purveyor of programmed discs for its VideoDisc players: affiliated retailers were required to carry stocks of discs and the company entered into agreements with video programming suppliers which were for sales only.

The success of VCR rentals surprised RCA officials. The entry of chain outfits, such as Fotomat, and thousands of individual "video boutiques" served to lower rental prices and increase the quality of program offerings available to home entertainment customers. Much as most book readers do not accumulate their own personal repositories when public libraries are located nearby, home entertainment consumers could avoid tape storage costs and yet retain low-priced access to a wide variety of entertainment options through video rental outlets. Many VCR tapes could be rented for as little as \$2 per night at the time VideoDisc was launched. The independent outlets also leased adult films. Pornographic titles accounted for

as much as half of all revenues from video rentals but were not included in RCA's disc catalog because such titles violated RCA's family-oriented product image.

Third, the VideoDisc project lacked organization and direction from top management. Unlike the dedication and commitment that chairman Tom Watson displayed towards the IBM 360, that Edwin Land devoted to Polaroid's products, that Frederick Close of Alcoa applied to aluminum-clad skyscrapers and aluminum can sheet, and that David Sarnoff of RCA exhibited in the development of both black and white and color television technology in the 1940s and 1950s, Robert Sarnoff, chairman of RCA in the 1960s to 1970s, adopted a more hands-off approach to the development of VideoDisc. In contrast to his father, Robert rarely walked the corridors of the Laboratories and had to be persuaded by subordinates to learn more about the disc project and to attend key meetings reviewing the progress of the project.

Fourth, RCA attempted to institutionalize research by recruiting primarily academically-oriented scientists for the Laboratories after World War II. Unlike the research veterans who rarely had advanced degrees and who prided themselves on being inventors and on their prior attachments to one of RCA's manufacturing divisions, the young recruits were highly trained theoretically, oriented towards working on academic problems defined by their disciplines, but inexperienced in business. As these theoretically-inclined researchers moved into positions of authority, the Laboratories became something of a corporate counterculture, dominated by people who shared little in common with the rest of RCA. Under the direction of the theoreticians, the Laboratories acquired a reputation of being "the country club": a place where RCA resources were squandered on exotic and/or impractical ideas.

Finally, once the VideoDisc technology was first exposed to the press on March 19, 1975, RCA executives acquired too much of a stake in delivering on their public promises for the innovativeness of the new technology. After having come up short on numerous technological products (including computers) in the 1960s and early 1970s, RCA officers came to view VideoDisc as their do-or-die test. Delivering something, anything, that would herald a re-

turn to RCA's innovative glory days took too much precedence over bottom-line analysis. As one executive put it:

We announced Selectavision I (Holotape) and we didn't deliver; we announced Selectavision II (Magtape) and we didn't deliver; if we don't deliver on Selectavision III (VideoDisc) it could be strike three and out insofar as our technical image is concerned. (p. 193)

Although Margaret Graham's book is quite informative regarding the reasons for VideoDisc's failure, I have a few general criticisms about her writing style and method of analysis. For one, the book reads too much like the case study it was originally intended to be. There are a lot of facts and interesting stories but too few analytical themes. Two chapters, for example, are devoted to David Sarnoff: his friendship with Guglielmo Marconi, his speeches to the Harvard Business School in the 1920s, and his attempts to win FCC-approval for RCA's color television signal standard. No attention, however, is devoted to his son and successor, Robert Sarnoff—the man most directly responsible for the VideoDisc project. Outside of a few anecdotes, no attempt is made to analyze the different characters and leadership styles of father and son and the possible implications of these differences for the failure of VideoDisc.

The analysis of why RCA stuck with a nonrecordable disc technology as opposed to switching to VCRs is also not developed as fully as one would like; neither are the reasons for why RCA failed to adopt a rental strategy for discs once it began to see the success of VCR rentals. Graham makes a point of noting the technocratic style of the researchers RCA began to hire after World War II, but devotes too little attention to the argument that RCA's theoretically-oriented R&D staff may have been too far removed from the constraints of the business world during the development of VideoDisc. Too much time is instead spent presenting a maddening number of corporate organization charts (which are not well-integrated with the text), stories about which researchers came from what schools and corporations, and anecdotes about what corporate officers were trying to do with particular corporate logos. The comings and goings of the logo-dog "Nipper" listening to the sound of his master's voice get

as much play as does the leadership style of Robert Sarnoff.

The shortage of analysis cannot be faulted too greatly, however, given that the book was written without the benefit of historical perspective. Margaret Graham's interviewing and writing were already in progress when the fate of VideoDisc was still undetermined. And the uncertainty and constant flux of ideas and personnel surely reflect the tumult involved in researching and getting a new product to market. Although it is a case study of a single instance of corporate R&D failure, economists and captains of American industry may learn a great deal from reading Margaret Graham's book.

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The positive sum strategy: Harnessing technology for economic growth. Edited by RALPH LANDAU AND NATHAN ROSENBERG. Washington, DC: National Academy Press, 1986. Pp. xiv, 640. \$35.00. ISBN 0-309-03630-5.

JEL 86-0851

This book is an attempt to set up a dialogue between economists and engineers for a better understanding of the conditions "under which technological innovation can be made to function more effectively in the generation of economic growth." Introduced by editors Ralph Landau and Nathan Rosenberg, forty-three highly distinguished contributors—economists, technologists, entrepreneurs, educators, experts in business and in financing of innovation—address significant themes: technology and the dynamic of economic growth; policy, law, science and education as the framework of technological change; the economics of innovation; entrepreneurship and the management and financing of innovation; and technology and international economic competition.

This attempt is a successful one and comes at just the right time. The book is, first, useful for engineers. It shows how the successful design and manufacture of new products are tightly linked to economic variables; and how successful technological innovation involves the fulfillment of needs "as they are expressed in the market place where considerations of costs and adaptation to specific needs and determination of appropriate trade-offs between price and performance are likely to be critical" (p. vii).

To recognize that economic forces shape the environment for technological innovation is a major step toward success in fields of sophisticated technology.

This book is also useful for economists. Despite the fact that research in the past decades has conclusively established the critical role of technological change in generating long-term economic growth, economists have continued to treat the realm of technology as a "black box." By carefully listening to engineers, economists may improve the economic analysis of the innovation process in considering many issues (role of firm size; varying gestation periods and uncertainties of the innovation process; degree of interdependency between scientific research and the development process; relationship between macroeconomic theory; technical change and economic growth; dynamics of competition and productivity advances; and so on).

But beyond the dialogue it fosters between economists and engineers, the book is mostly beneficial to policy makers. As one of the authors, R. Malpas, says: "Harnessing technology for growth, however difficult, is essential for success, of a company and a nation, particularly in a sustained period of low growth" (p. 110). The authors point out the role played by governments in the innovative process. Governments aid R&D efforts, and by doing so induce learning-by-doing in the private sector, support large-scale projects not feasible in the private sector, establish on a macroeconomic level fiscal and monetary policy and on a more microeconomic (or second-tier level) tax or trade priority policies having varying effects on the innovation process. Above all, the proper role of government seems to be the creation of a favorable environment "in which new ideas and new enterprises are likely to flourish" (p. 535). E. Zschau cites four prerequisites for such an environment: a commitment to basic research, encouragement of risk taking, an adequate supply of trained technical people, and ample market opportunities. A good economic climate is the key to the successful integration of R&D with engineering, manufacturing and marketing.

In its discussions of economic policy, this volume reflects the growing perception of the importance of national and international financial systems (especially the venture capital system) to the process of technological innovation and economic growth. According to J. D. Marver

a general assessment of financing innovation through the public equity markets indicates that there is much less creativity in the financing of quality growth companies than in the financing of other types of corporations in the United States.

At a time when the United States has lost international competitiveness in a number of important industries, this book provides a good opportunity to rethink policies toward innovation. A real challenge is involved: a clear understanding of the role of innovation and a national consensus are required, particularly to match the Japanese resolve. On this topic, the volume poses provocative questions like: "Does the American system favor equity and risk aversion?" or "Will a system designed with an increasing concern for equity work as well to promote growth, in the light of increasingly competitive global markets?"

Even if we are left with many tantalizing questions, this volume clearly demonstrates that technology is "what makes an economy a positive sum game." It is a welcome step toward an extensive and effective collaboration between economists and technologists, all of whom deal with an extraordinarily complex and interdependent set of relationships. But only through their cooperation can a better understanding of the process of innovation be applied for the well-being of nations.

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800 Manpower; Labor; Population

810 MANPOWER TRAINING AND ALLOCATION; LABOR FORCE AND SUPPLY

Military technology and defense manpower. By MARTIN BINKIN. Studies in Defense Policy series. Washington, DC: Brookings Institution, 1986. Pp. xi, 143. \$28.95, cloth; \$10.95, paper. ISBN 0-8157-0978-1. JEL 87-0067

American defense policy is founded on technological superiority over potential adversaries. The Russians are deterred, it is presumed, more by the legions in Silicon Valley than by the Watch on the Rhine. Critics of this posture question the reliability of much of the new technology under battlefield conditions and whether the United States can continue to recruit sufficient men and women with skills in

propriate to the era of Star Wars. While the reliability issue has received considerable media attention, the recruitment problem has until recently been largely overlooked, in part because the recession of 1981-82 and changes in the political climate dramatically increased enlistments. The author of this useful study argues that the days of ready recruitment are over and the nation will face much more serious problems in meeting military manpower needs in the near future.

As is appropriate for a book reviewed in these pages, the problem involves both demand and supply. Since the 1950s increasing sophistication of weapons of war and the logistical problems posed by weapons systems support have led to substantial changes in the military jobs roster. While changes have varied, all service branches now require that a larger proportion of recruits show aptitude for operating and repairing electronic equipment. This upgrading of requirements reduces the pool of acceptable recruits. This reflects what is happening elsewhere in society: the "skills mismatch" issue is not unique to the military. What is more important according to the author is the substantial leap in military technology currently in progress. The changes are cataloged in the book; this collection will for most readers likely be at once impressive because of the scientific and engineering achievements involved and depressing because of the cataclysmic consequences should the new equipment ever be used.

The implications of this technological transformation for recruitment are controversial. Some experts argue that the new technology will reduce skill requirements by transferring responsibilities for operation and maintenance from people to machines. Others claim that the increasing complexity of military hardware will be accompanied by declining reliability and increasing difficulty of maintenance. These problems will, in turn, increase the demand for skilled maintenance personnel. Automatic diagnostics systems provide a case in point: these gadgets are intended to reduce maintenance skills needs by using electronic sensors to identify military systems components in need of repair. In practice, however, the automatic diagnostic systems themselves have been failure-prone; identifying when it is the sensor and not the machine that is malfunctioning calls for

exceptional skills. This, of course, creates a need for more of the types of personnel the systems were intended to replace. A case can be made that over time these problems can be solved, but here too the record is not encouraging. On balance, the author concludes, demand for electronics skills will grow.

On the supply side the central fact is that between 1980 and 1995 the absolute number of 18-21 year old males in the country will decline by 1.4 million or roughly 13 percent. Compared to the past, a larger proportion of the pool that remains will be members of minority groups. Recruits from minority groups as well as women have historically scored lower than white males on measures of aptitude related to electronics. Adjusting for trends in college attendance and assuming currently planned recruitment requirements, the armed forces by 1991-95 will be absorbing 55 percent of all males aged 18-21 not attending college and likely to meet mental and moral requirements for service, up from 50 percent in 1984-88. But if instead projections are made on the basis of currently planned military capital stock and organizational structure and it is assumed that the Army raises its entry standards to those now required by the Air Force, the services will require 77 percent of the pool of young men that meet the revised recruitment standards.

Something will have to give: with existing levels of remuneration and no recession, the services will never obtain this many qualified recruits. The last two chapters of the book are devoted to policy options for meeting the manpower shortage. These fall into four categories. The first is to raise pay. The author does not provide estimates of the potential cost of this option, although much work is available on the supply of military recruits. Rather, such options are dismissed as politically out of the question. The second is to undertake design changes for military hardware: provide simpler systems, improve reliability, make new systems more maintainable. While in principle it appears that opportunities exist for substantial improvement based on VHSIC (very high speed integrated circuit) technology and other innovations, history again causes the prudent observer to be skeptical. The third option involves improvements in military training that will allow use of recruits with lower basic aptitudes. And fi-

nally there are a series of management alternatives: (1) Expand the role of women (an unpromising source given recruitment experience and lower average aptitude in electronics); (2) substitute civilians (raises problems of pay comparability and wartime reliability); (3) increase retention of skilled personnel (already happening, but concentrated in lower-skilled ratings); and (4) return to conscription (might provide quantity, but quality is the problem).

The author's conclusions are that changes in manpower utilization are unlikely to alleviate the coming shortage, that training innovations are promising, and that "most worthy of special attention" are efforts at reducing the demand for highly qualified people by changing systems. This includes emphasizing simplicity, reliability, and ease of maintenance in system evaluation. Efforts are being made in this direction, but military preoccupation with quick fielding of maximum performance systems leaves little opportunity for serious pursuit of these other goals.

This is a valuable, easy-to-read book. The argument is strongest on demographics and manpower utilization options, weakest on technology evaluation and organization theory. Uncertainty about technology and organization is the crux of the matter: Do technological opportunities exist that will in fact permit economizing on human skills? Are there potential organization changes that would lead to incorporation of manpower and support considerations more systematically in military procurement? Since the author does not answer these questions, the principal achievement of the book is to convince the reader that the problem is serious. This is a beneficial first step.

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820 LABOR MARKETS; PUBLIC POLICY

The economics of comparable worth. By MARK ALDRICH and ROBERT BUCHELE. Cambridge, MA: Harper and Row, Ballinger, 1986. Pp. xxiii, 180. \$29.95. ISBN 0-88730-073-1.

JEL 86-1235

The authors of this volume cast a wide net, beginning with a discussion of women's wages and employment opportunities in the nineteenth century and earlier reform efforts, in-

cluding some antecedents of comparable worth in the debate around equal pay legislation in the 1940s and 1950s (Ch. 1). They also discuss the current legal and political context in which comparable worth has emerged (Ch. 2), and they offer new empirical analyses of the likely future effects of comparable worth on wages, the quantity of employment, and the distribution of income (Chs. 5 & 6).

The contribution of the book lies principally in its critique of current methods for determining comparable worth wage adjustments and the authors' proposed alternative (Ch. 4). Using the theory of compensating differentials, they argue that the returns to job characteristics should be equal across occupations. Noting that discrimination may currently contribute to unequal returns between male and female dominated occupations, the authors develop their own "economists' model" of a comparable worth policy which would equalize these returns. They then juxtapose their model with a stylized version of an "advocates' model," and contrast the results in terms of their potential impact on wages, employment, and income distribution. They suggest that although the advocates' version of comparable worth has faults, the economists' version would provide a reasonable remedy for a limited labor market problem—low wages due to sex segregation. Moreover, they find that comparable worth wage adjustments would tend to favor the lower end of the income distribution, and benefit black women relatively more than white women—hence it is not solely a white middle class woman's issue, as its opponents often claim. Aldrich and Buchele also find that if comparable worth increased women's wages in women's jobs by 10.0 percent, employment losses would be on the order of 3.5 percent, resulting in a net increase of wage income for women.

In developing their own model, Aldrich and Buchele modify a method proposed in the 1981 National Academy of Sciences report by Treiman and Hartmann (*Women, Work and Wages: Equal Pay for Jobs of Equal Value*, Washington, DC: National Academy Press). Using a national data set, approximately 3300 men and women in their late 20s and 30s from the 1980 National Longitudinal Survey and variables from the *Dictionary of Occupational Titles* to proxy a job evaluation plan, Aldrich and Bu-

chele regress occupational wage rates against the job evaluation scores. They also add human capital variables, and controls for region and industry (to more closely mimic the experience of a firm, the context in which comparable worth is usually implemented). As in the National Academy of Sciences report, their model corrects for the bias of market wages by adding a variable for percent female of the occupation, but they also add interaction terms of percent female with all the other variables (to allow for the possibility that comparable worth type discrimination varies between more and less skilled jobs, for example). Adding the interaction terms is an improvement over the Academy proposal (and they find that without the interaction terms, discrimination is underestimated). However they overstate the extent to which their methods differ significantly from those used in the Academy report.

Two features of their proposed method are unique, however. First, they argue that separate equations for occupational wage rates should be estimated for male and female workers (that is, one equation is estimated using average male wages across all occupations, and a second is estimated using average female wages). Second, they suggest that in calculating comparable worth wage adjustments, the current practice of substituting values of the independent variables for female-dominated occupations into the male equation should be changed. They argue that the constant term (which they find to be important in many comparable worth applications) contains unknown components that contribute to the wage gap, but are not necessarily discriminatory. They propose to substitute the male coefficients into the female equation, thus leaving untouched the difference in intercepts. Their reasoning here can be objected to on the grounds that only those variables which are *uncorrelated* with the existing explanatory variables but correlated with sex will significantly affect the constant term. Such "magic bullets" have been searched for by those opposed to remedies for discrimination (which they believe nonexistent) for over two decades and have not yet been found. The constant term *does* reflect gender differences, even if we do not know why they arise. In fairness, Aldrich and Buchele always present two estimates, an upper bound esti-

mate for the effects of discrimination, which includes the constant term, and a lower-bound estimate which does not.

Their reasoning in support of regressing occupational wage rates separately for men and women is difficult to follow and in the end their method has bizarre results: men in women's occupations often wind up with bigger comparable worth wage adjustments than women in the same occupations, even though men are already better paid in those occupations than women are. This result occurs because percent female explains less of the variation in female wages than it does in male wages. They support their method by arguing that using one equation would conflate the effects of between-occupational wage differences with within-occupational wage differences; they believe comparable worth should correct for only the between-occupation differences, which they believe are small. Yet surely comparable worth advocates are not interested in preserving as best they can the within-occupation discrimination. In their effort to be distinct in what they are measuring, Aldrich and Buchele propose an alternative that has little policy appeal or relevance.

In the end their economists' model results in adjustments similar to those from the advocates' model (especially since they seem to suggest that the upper bound estimates are the more reasonable); a consensus seems to be emerging that comparable worth wage adjustments will increase women's wages on the order of 10-20 percent.

The book makes its most significant contribution in its last two substantive chapters that detail the distributional and employment effects. To our knowledge, Aldrich and Buchele are the first to have estimated the differential effects of *plausible* comparable worth wage adjustments by occupational category and demographic groups (black and white women and men). Theirs are also the first empirical estimates of likely wage gains and employment losses (again by broad occupational groups) on an economy-wide basis. Although it is important to remember that these empirical results are not based on wage adjustments that have actually occurred in a number of workplaces, but rather on an economists' model that has never been implemented (using a national data set and a hypothetical job evaluation plan based

on the DOT), the estimates do provide some very general guidance in an often uninformed debate.

On the whole the book succeeds in providing a balanced view of comparable worth and treating it with more economic rigor than many have. Yet because of its emphasis on minor or misguided technical embellishments it is unlikely to shape the comparable worth discussion in a significant way. Moreover, the book reads as though it started out as a technical monograph to which material of a more general nature was added while some of the technical details were suppressed. As such it may satisfy neither the technicians, who will have to work hard to figure out what the authors actually did in their empirical analysis, nor those wanting a comprehensive overview. Those doing serious research on comparable worth will find that it is not a substitute for—or an adequate summary of—the existing broader literature, yet will probably want to pay attention to the authors' specific findings.

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Unemployment benefits and unemployment duration: A study of men in the United Kingdom in the 1970s. By A. B. ATKINSON AND JOHN MICKLEWRIGHT. London: London School of Economics and Political Science, Suntory-Toyota International Centre for Economics and Related Disciplines, 1985. Pp. vii, 282. £10.00, paper. ISBN 0-85328-098-3.

JEL 87-0277

The effect of unemployment benefits on unemployment duration has been the focus of extensive empirical investigation over the decade following the study by Ronald Ehrenberg and Ronald Oaxaca (1976). The view that unemployment insurance increases unemployment is widely held; the empirical issue is one of measurement. What do the data show? The objective of this careful book is to bring to light the complexities of the unemployment benefit system in the UK, the diversity of individual circumstances under the system, and the difficulty of analyzing its effects. In particular, Tony Atkinson and John Micklewright study the sensitivity of findings on the relation between bene-

fits and unemployment spell durations to the assumptions and decisions necessary to solve ambiguities of data and definition. They consider previous studies and present findings from their own analysis of a sample of 1231 men aged 16-64 drawn from the 1972-77 Family Expenditure Survey (FES). They also study the adequacy of the system in providing income support, noting that this, the "benefit" side of the system, has not been given the attention it deserves relative to the "cost" or disincentive side.

Following an introductory chapter, Chapter 2 sets out the institutional background of the unemployment benefit system in place in the UK in the 1970s. A brief sketch of the historical origins of the system is provided. This is followed by a detailed description of the eligibility requirements and major features of the three basic programs that comprised the system: the flat rate National Insurance benefit (NI), the Earnings Related Supplement (ERS, now defunct), and the means-tested Supplemental Benefit (SB). The many factors affecting the level of benefits actually received by an individual are discussed in detail. Many of these, the authors argue, are neglected in policy analyses and debate—including personal choice of whether and when an individual registers as unemployed and whether or not an application is filed for means-tested benefits. The authors also stress that the structure of the benefit system is such that benefit levels will vary significantly over the duration of a spell for most individuals so that use of a constant benefit amount for the duration of a spell is inappropriate. This point is important, as approximating a time-varying explanatory variable by a constant in duration models can lead to substantial bias.

Chapter 3 is devoted to a detailed comparison of several survey data sets in the UK.

In Chapter 4, both official statistics for the UK and the FES data are used to determine the extent to which benefits individuals actually received were different from the maximum benefits for which they were eligible. Some surprising statistics are presented. For example, in any given year from 1973 to 1979, less than sixty percent of men unemployed less than one year in the UK received the basic NI benefit. The reason for this low proportion, the authors report, is "linked spell exhaustion" of benefits—spells separated by less than thirteen weeks of

continuous employment are considered a single spell in determining eligibility. The authors also report that more than one fifth of all individuals eligible for the means-tested SB did not claim this benefit in the 1970s.

The next three chapters are devoted to "replacement rates." A variety of definitions for the replacement rate and the appropriateness of each for different purposes are the subject of Chapter 5. Chapter 6 provides a discussion of the difficulties involved in calculating some of these measures and then presents the authors' calculations of benefits and replacement rates for the FES sample under different sets of assumptions. In Chapter 7 the authors confront the view that the income maintenance system provides a high level of support. In terms of the adequacy of benefit levels, the authors report that between one in six and one in eight workers in their total sample of 1231 for the 1972-77 period had total unemployment incomes below ninety-five percent of a UK standard (the SB scale). The calculated replacement rates exhibit wide variation due to variation in the construction of measures of income. Chapters 8 and 9 turn to the effects of unemployment benefits on spell durations. The first of these two chapters focuses on the hazard rate studies of Tony Lancaster (1979) and Steve Nickell (1979). Differences across the two studies in implementing essentially the same statistical model (e.g., populations sampled, replacement rate definitions, and income measures) are discussed in detail, along with differences in results. Atkinson and Micklewright stress that most coefficients in both studies are imprecisely determined (a characteristic of many studies in this field) and argue that only under unrealistic values for the replacement rate are the benefit elasticities implied by the two studies close.

Chapter 9 presents the results from the authors' own hazard rate study based on the FES. They carry out a number of experiments to determine the robustness of the estimated replacement rate effect—so many experiments that keeping track of exactly what they are doing poses quite a task. Alternative benefit measures, different subsamples over time, alternative definitions of the replacement ratio, and different specifications of remaining regressors are all considered. The findings? The replacement rate coefficient estimates are generally im-

precise and there is wide variation in the benefit elasticities implied across the different specifications. The authors succeed in demonstrating that any size effect within a large range may be said to be supported by the data. In this sense the conclusion of the book is negative: The weight of the evidence is that the evidence is not weighty.

Much of what Atkinson and Micklewright discuss in the book is treated more briefly in Atkinson et al. (1984). Many economists will be sated by that article. Specialists will want full discussion and all the gory details (too often not available). Here they are.

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Unemployment, search and labour supply. Edited by RICHARD BLUNDELL AND IAN WALKER. Cambridge, New York and Sydney: Cambridge University Press, 1986. Pp. xi, 339. \$44.50. ISBN 0-521-32027-5.

JEL 87-0280

This book contains sixteen papers selected from those presented at a conference held at the University of Manchester in July, 1984. The first eight chapters are on unemployment and search behavior with the remaining chapters on labor supply. Most of the contributions are empirical with emphasis on policy issues. Thus, four of the six empirical papers on unemployment and search behavior study the impact of government programs on unemployment, three papers on labor supply analyze the impact of taxes, while another measures the incentive effects of disability insurance.

An interesting feature of the volume is the

wide array of data analyzed by the authors. Papers in the volume analyze both individual and aggregate time series data for several countries (Britain, France, Denmark and the United States). In addition, new sources of data are introduced. Heather Joshi, for example, introduces a new source of British female employment data, the Women and Employment Survey of 1980; C. V. Brown et al. report on an on-going research project, The Treasury Taxation Project, that gathered detailed information on individual payment schemes in Britain. Brown and his associates plan to use this information to provide complete and accurate descriptions of individual budget constraints in order to calibrate the extent of the bias in labor supply estimates generated by standard (crude but easily calculated) approximations of individual budget constraints (e.g., workers face a single wage for all hours of work). Upon completion, this project could make a significant contribution to our knowledge of labor supply behavior.

Another useful feature of the contributions is that, in accordance with the policy emphasis, several studies use simulation techniques to augment their estimates. A notable example is the paper by Richard Blundell et al., "A Labor Supply Model for the Simulation of Tax and Benefit Reforms," which is a nice blend of statistical estimation and policy analysis. The authors present a simulation algorithm for incorporating labor supply responses to evaluate tax reforms. They demonstrate the usefulness of the simulation procedure for tax analysis by four illustrative tax reform experiments. Analysts frequently simulate their estimated model to investigate policy effects. What makes the paper unique (or at least unusual) is that the authors perform diagnostic tests of the estimated model prior to the simulation experiments. Without this prior analysis to provide evidence that the model adequately describes observed behavior (at least in some measure), a simulation study is always open to the criticism that the results obtained are only due to the imposition of an arbitrary model structure onto the data. The application of the specification tests by Blundell et al. is also interesting because it illustrates that requiring a model to pass several tests is a difficult standard to achieve: Their preferred model, while dominating simple al-

ternatives, fails two of the four specification tests. It is disappointing that the authors do not comment on the implied model failure.

The gem of the volume, "On the Specification of Labour Supply Functions," is by Nicholas Stern. While not an empirical application, this paper will become a standard reference for empirical labor economists. In the first half of the paper, Stern develops and motivates eight criteria for selecting an empirical labor supply specification. Among Stern's criteria are: (1) consistency with utility maximization, (2) convenience in estimation, (4) ease of use in applied policy problems, and (8) flexibility in possible response of labor supply to changes in the wage. Thus, Stern's criteria are sufficiently broad to be useful for a wide range of applications.

Also useful is Stern's lucid discussion of the relationships among the labor supply function and the direct and indirect utility functions. Using duality concepts, in the second half of the paper, Stern fully characterizes the properties of twelve labor supply functional forms. This encyclopedic and clear discussion of the implied behavioral restrictions for all commonly used (and some not-so-common) labor supply specifications makes a real contribution to the labor supply literature. Diagrams are included of alternative parameter restrictions for most functional forms to help clarify the implied behavioral responses. For reference, in an appendix, each functional form has its own summary table. Anyone teaching a graduate course on labor supply will want to include Stern's paper on the reading list.

The papers in the volume are topical and the distinguished list of contributors will catch the attention of many. However, the book's usefulness is significantly undermined by poor and uneven editing. For example, data sources are not uniformly reported; three papers have data appendices while in another the data source is never reported. The unevenness extends to the presentation of the empirical results; e.g., in two papers, the authors discuss only one equation of multiequation systems, while in another supplemental estimates are reported in an appendix. Unfortunately, the unreported estimates are central to the analysis. A prime example is Joshi's paper which lists as one of its contributions a new method to impute women's earnings potential. She presents estimates of

the earnings equation without standard errors (or *t*-statistics) or other diagnostic information and refers the reader to a working paper for a fuller discussion. A simple presentation of the estimates does not provide the reader sufficient information to assess her stated contribution. Unfortunately, the Joshi example is not an isolated case. Many of the papers are not self-contained and, without access to the companion papers, it is impossible for the reader to assess many of the empirical findings. In a volume of primarily empirical papers, this is a major shortcoming.

The volume contains papers which are useful, some that expose the reader to several alternative sources of data and others that clarify important ideas. Unfortunately, too much of the important information was lost in the transition from the conference to the publisher.

JAMES R. WALKER

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Inventing retirement: The development of occupational pensions in Britain. By LESLIE HANNAH. Cambridge, New York and Sydney: Cambridge University Press, 1986. Pp. xi, 201. \$39.50. ISBN 0-521-30361-3.

JEL 87-0286

Retirement is a common feature of modern twentieth century industrial societies. The specific institutional arrangements that enable individuals to fund a period of leisure at the end of life are not. But as this interesting little book on the development of occupational pensions in Britain shows, the public policy issues surrounding the development of an integrated retirement system are remarkably similar.

The first part of the book details the growth of occupational pensions and their eventual integration with the compulsory publicly financed system. The author's theme is that the modern British occupational pension system was the product of three forces: the demand by individuals for a mechanism through which to save for retirement; a collective political demand for public provision of adequate income for all older people; and the evolving nature of the employment relationship in large bureaucratic enterprises.

As is true in the United States, occupational pensions in Britain offered individuals a means of reducing tax liabilities both by shielding in-

terest from taxation and by reducing the effective progressivity of the income tax by smoothing the receipt of life-cycle income. The author argues that the increasing progressivity of Britain's income tax after World War II spurred on individual demand for pensions. The resulting public policy debate between efficiency—double taxation on savings—and preserving the tax system's progressivity will be familiar to American readers.

The political pressure to increase the economic well-being of the aged resulted in a publicly financed system of old age benefits partly based on contributions but with a large transfer component. The main feature of this system which makes it quite different from ours is that firms can opt out of the public plan if their plan provides certain minimum benefits. The issues surrounding the public scheme's funding and the debate over the merits of pay-as-you-go financing will also be familiar to American audiences. Less familiar is the debate over the degree that public funds should explicitly be used to subsidize private plans in order to encourage them to match the publicly financed scheme's protection against inflation.

Large bureaucratic enterprises, which the author argues are internal labor markets completely separate from the competitive spot labor market, provide the final source of demand for occupational pensions. The author rightly stresses that this demand is based on the real productivity gains such compensation schemes generate.

Defined benefit pensions not only defer compensation but make the receipt of benefits contingent on specific future behavior. Hence these plans reduce turnover at younger ages, induce retirement at older ages, and enforce discipline throughout tenure with the firm. The matching of a firm's needs to those of its workers is achieved by offering lifetime compensation schemes whose benefits are most appealing to a select part of the work force—long stayers—whose planned labor force participation behavior is most attuned to the compensation package offered by the firm. Once these workers are employed they face systematic losses in lifetime compensation if they vary from their planned work path.

This is an important aspect of defined benefit plans and provides an extremely useful insight

into the role such pensions play in labor supply decisions. Unfortunately, the author almost totally ignores the last decade of literature on the neoclassical theory of pensions which links this form of "internal" compensation to the outside labor market. One of the clearest discussions of this implicit contract view of pensions and its implications for public policy is found in Ippolito (1986). Those interested in pension policy issues are well advised to read that book in conjunction with this one.

A closer consideration of the implicit contract literature and its emphasis on lifetime behavior would have been particularly useful in the second part of the book which discusses current pension policy in Britain. As is the case in the United States, most private pensions are defined benefit plans that link benefits to final wage earnings. The author recognizes that such plans penalize those who leave the firm early because, even if they are vested, their future benefit will be based on the last year worked. In such plans even modest inflation rates will substantially reduce the pension's real value at retirement.

Do workers recognize this as part of the implicit pension contract and make decisions accordingly? If so, to what degree should public policy intervene to reduce this penalty? The treatment of these questions, which British public policy is now struggling to answer, would have been greatly enhanced by developing them within a life-cycle framework.

The same can be said with respect to the exposition of the effects of the pension system on retirement age. The importance of replacement rates and mandatory retirement rules on retirement decisions is recognized. However, there is no discussion of how changes in the accrual value of pensions can influence the optimal age of retirement.

For instance Britain, unlike the United States, continues to allow firms to establish a mandatory retirement age. In the United States the present discounted value of most private pensions and certainly social security falls after age 65. Hence the removal of mandatory retirement rules at age 65 appears to have had very little effect on labor supply. A sensitivity to this aspect of pensions would enable the reader to judge the actual importance of mandatory retirement rules in Britain.

Despite these criticisms this book offers those interested in pension policy in this country a detailed picture of the development of an alternative system. The British system and its accompanying problems, well documented in this book, should give pause to those who believe a greater reliance on private pensions necessarily yields better retirement policy outcomes.

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REFERENCE

IPPOLITO, RICHARD A. *Pensions, economics and public policy*. Homewood, IL: Dow Jones-Irwin, 1986.

900 Welfare Programs; Consumer Economics; Urban and Regional Economics

910 WELFARE, HEALTH, AND EDUCATION

Fighting poverty: What works and what doesn't. Edited by SHELDON H. DANZIGER AND DANIEL H. WEINBERG. Cambridge, MA and London: Harvard University Press, 1986. Pp. viii, 418. \$27.50. ISBN 0-674-30085-8.

JEL 86-1267

This is a large volume of 14 not previously published papers and an introduction first presented at a conference held in December 1984. The purpose of the book and the conference is to summarize what we have learned from 20 years of actively fighting poverty in the United States, or as the subtitle of the volume attests: "What works and what doesn't." The papers are both voluminous and informative. While a great deal of the material presented could be culled from the earlier works of several of these authors, there is both fresh material and careful interpretive insight. Few edited volumes have papers that fit together as well as these do. As such, it will serve students in masters and graduate level courses in economics, public policy and social work as a useful complementary text. As a general reference work, there has been little useful material ever written about the War on Poverty that is not cited, summarized in the papers, and listed in the 38 page bibliography near the end of the book. The editors and authors are to be praised for the breadth and depth of their contributions.

Chapters 1, 14 and 15 present the volume synthesis, rapporteur's summary, and agenda for future research, respectively. They are useful as such, bringing together general themes of the 320 other pages in Chapters 2-13. The bottom line of the volume is that the current system of social policy is not so defective as its major critics, e.g., Charles Murray (1984), have argued. To be sure, to argue that "everything works" is no more appropriate than to claim "nothing works." As suggested by Gary Burtless (Ch. 2) and reiterated by the editors in Chapter 1, "nothing works miracles" is a more realistic claim for government antipoverty policy. To see what does and does not work is the challenge to the remaining substantive papers.

Chapters 2, 3 and 4 provide a thorough quantitative history and evaluation of the major programs and policies used to fight poverty from 1965-1985. These chapters—on public spending by Gary Burtless (Ch. 2); on a cost-benefit analysis of anti-poverty policy by Sheldon Danziger, Robert Haveman and Robert Plotnick (Ch. 3); and on welfare policy by David Ellwood and Lawrence Summers (Ch. 4)—provide a review of policy instruments and their effectiveness in reducing measured poverty. As the editors claim, some programs have worked (e.g., income transfers for the elderly and the disabled) and others have not (e.g., attempts to increase self-sufficiency through earnings for the able bodied poor). The evaluations are generally even-handed and informative. For instance, Ellwood and Summers' summary evaluation of the Aid to Families with Dependent Children (AFDC) program argues convincingly that AFDC does *not* disrupt the family, increase illegitimacy or dissolve marriages, but that a minor number of recipients tend to remain on the program for a long period of time. Yet mistakes can be made, even among this distinguished group. These same authors seem to misinterpret the relationship between recent changes in median income and poverty by ignoring recent changes in income inequality. Hence the papers should be read carefully.

The next set of contributions: Chapter 5 on health care policy, by Paul Starr; Chapter 6 on job creation and training programs, by Laurie Bassi and Orley Ashenfelter; and Chapter 7 on education and training by Nathan Glazer

(with a published comment by Christopher Jencks) review our experiences in the area of human resources. The good news here is that Medicaid and related health care and nutrition programs increased access to medical care by the poor; the bad news is that cutbacks in Medicaid outlays and lack of Medicaid coverage for most persons in two parent families has begun to erode the gains in health brought about by Medicaid. Perhaps the two most glum chapters are the balanced evaluations of education, training and job creation. If the War on Poverty was largely an attempt to put the poor to work, to increase their marketable skills via education and training and to create jobs for them, leading to long-term self-sufficiency as many (e.g.; Haveman 1977) have argued, herein lies its greatest failure. Yes, *some* programs worked *some* of the time for *some* people, and, as the editors suggest, outlays were insufficient to meet needs. However, if this is the key battle to be fought in the continuing war, we do not really yet know how to win it.

Chapter 8 by Rebecca Blank and Alan Blinder deals with the effects of the macroeconomy on poverty and points to the rising number of long-term and cyclically unemployed who are increasingly concentrated near or below the poverty line. The problem of direct income and payroll tax liability for the working poor is discussed in detail. Before the recent 1986 income tax reform bill was passed, a two parent family with two dependents and \$10,000 in annual earned income paid more in federal income and payroll taxes than the face value of Food Stamps for which they were eligible (Smeeding 1987)! If the family was ineligible for Medicaid and not living in public housing, two virtual certainties for this type of family in the early 1980s, the net effect of government programs of these working poor was to reduce their incomes. The 1986 tax reform bill was probably the most effective antipoverty bill passed under the Reagan Administration, because it remedied just this problem.

The next two chapters, by Mary Joe Bane (Ch. 9), and by William J. Wilson and Kathryn Neckerman (Ch. 10), deal with the issue of demographic change and poverty. In her usual direct and careful manner, Bane suggests that the feminization of poverty is more a reshuffling of poverty from poor two-parent to poor one-

parent households than it is a case of divorce and abandonment. Also she points to the increased concentration of elderly poverty among single older widows. Wilson and Neckerman argue that family breakup, especially in black families, is much more the result of black male joblessness than of the welfare system. Together these papers suggest that the black poverty dilemma is much more pernicious than the teenage pregnancy problem which the popular media chooses to emphasize. Chapter 12 on civil rights by Charles and Dona Hamilton underlines this conclusion.

In a very interesting chapter by Michael Sosin (Ch. 11) and comment by Lawrence Mead, welfare rights are debated. Sosin argues that the legal and social movements of the 1960s and 1970s that helped establish the rights of the poor to public aid were largely eroded by the bureaucratic rigidity and enforcement rules brought about under the Reagan administration. Mead argues that these rules and regulations were necessary to establish social obligations of work and child support upon the poor. While the increased enforcement of child support regulations on absent fathers is to be cheered, the reviewer would argue that the majority of the increased red tape was simply a result of the Reagan Office of Management and Budget's zeal to save money. In any case, both Sosin and Mead would, I think, agree that the system of aid to the poor has become less responsive and more rigid in recent years.

The final substantive chapter, by Hugh Heclo (Ch. 13), should be must reading for all economists interested in helping the poor. Here Heclo argues convincingly that the political constraints to doing something for the poor are so large at present that one needs to hide anti-poverty programs in a larger social agenda. Hence the income tax reform of the 1980s helped the poor even though increased eco-

nomics efficiency, tax simplification and lower marginal tax rates (mainly for the well-to-do) were its main calling cards; Food Stamps are consistently backed by the farm states despite the fact that the program has virtually no effect in generating higher food purchases among its recipients, etc. Faced with this political reality and a large budget deficit, it is hard to see how during the next few years the United States will be able to generate the \$5.0 billion or so that it takes to set a national minimum AFDC benefit, or even to target a less costly but equally effective antipoverty measure such as a Social Security/Supplemental Security Income benefit increase for elderly widows. On an even more gloomy note, it appears that it will be difficult to generate the jobs necessary to permanently reduce poverty as unemployment remains stuck at the seven percent level, four years into the recovery from the 1982 recession.

Perhaps, as suggested by Alfred J. Kahn of Columbia University at the close of the conference upon which the book is based, it is now a "seed time"—a time for the antipoverty warriors to regather their forces and wait for a more favorable political climate. If so, they would be wise to begin to build their programs on the solid foundation laid by this volume.

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REFERENCES

- HAVEMAN, ROBERT H., ed. *A decade of federal anti-poverty programs: Achievements, failures, and lessons*. NY: Academic Press, 1977.
- MURRAY, CHARLES A. *Losing ground: American social policy, 1950-1980*. NY: Basic Books, 1982.
- SMEEDING, TIMOTHY M. "Reagan, the Recession and Poverty: What the Official Estimates Fail to Show," in *Distributional impacts of public policies*. Eds.: SHELDON DANZIGER AND KENT PORTNEY. NY: Greenwood Press, 1987.

New Books: An Annotated Listing

Classification System for Books

- 000 General economics; Theory; History; Systems
 - 010 General economics
 - 020 General economic theory
 - 030 History of economic thought; methodology
 - 040 Economic history
 - 050 Economic systems
- 100 Economic growth; Development; Planning; Fluctuations
 - 110 Economic growth; development; and planning theory and policy
 - 120 Country studies
 - 130 Economic fluctuations; forecasting; stabilization; and inflation
- 200 Quantitative economic methods and data
 - 210 Econometric, statistical, and mathematical methods and models
 - 220 Economic and social statistical data and analysis
- 300 Domestic monetary and fiscal theory and institutions
 - 310 Domestic monetary and financial theory and institutions
 - 320 Fiscal theory and policy; public finance
- 400 International economics
 - 410 International trade theory
 - 420 Trade relations; commercial policy; international economic integration
 - 430 International finance
 - 440 International investment and foreign aid
- 500 Administration; Business finance; Marketing; Accounting
 - 510 Administration
 - 520 Business finance and investment
 - 530 Marketing
 - 540 Accounting
- 600 Industrial organization; Technological change; Industry studies
 - 610 Industrial organization and public policy
 - 620 Economics of technological change
 - 630 Industry studies
 - 640 Economic capacity
- 700 Agriculture; Natural resources
 - 710 Agriculture
 - 720 Natural resources
 - 730 Economic geography
- 800 Manpower; Labor; Population
 - 810 Manpower training and allocation; labor force and supply
 - 820 Labor markets; public policy
 - 830 Trade unions; collective bargaining; labor-management relations
 - 840 Demographic economics
 - 850 Human capital; value of human life
- 900 Welfare programs; Consumer economics. Urban and regional economics
 - 910 Welfare, health, and education
 - 920 Consumer economics
 - 930 Urban economics
 - 940 Regional economics

Annotated Listing of New Books

Editor's Note

Our policy is to annotate all English-language books on economics and related subjects that are sent to us. A very few foreign-language books are called to our attention and annotated by our consulting editors or others. Our staff does not monitor and order books published; therefore, if an annotation of a book does not appear six months after the publication date, please write to us or the publisher concerning the book.

An index to the *Annotated Listing of New Books* will appear at the end of the *General Index* in the December issue.

000 General Economics; Theory; History; Systems

010 GENERAL ECONOMICS

BLOCK, WALTER. *On economics and the Canadian bishops*. Focus series, no. 3. Vancouver: Fraser Institute, 1983. Pp. 76. Paper. ISBN 0-88975-057-2. JEL 87-0642

Critique of the recent statement entitled "Ethical Reflections on the Economic Crisis" prepared by the bishops of the Social Affairs Commission of the Canadian Conference of Catholic Bishops. Purpose is to promote an ongoing dialogue on economic questions from a religious and moral perspective. Discusses the principles of preferential option for the oppressed and priority of labor over capital upon which the report is based and highlights difficulties associated with them. Criticizes the strategies proposed in the report regarding curbing unemployment rather than inflation, the industrial strategy of low technology and high labor intensity, wage and price controls, welfare, and the role of labor unions. Reflects on report issues related to social Darwinism, profit, income distribution, business concentration, self-sufficiency, automation, job retraining, and North-South discrepancies. Examines overlooked issues of relevance for unemployment and the economic crisis including the effects of the Minimum Wage Law, corporate-state capitalism, and labor mobility. Lists suggested readings. Block is Senior Economist with the Fraser Institute and Director of the Centre for the Study of Economics and Religion, Vancouver. No index.

BLOCK, WALTER. *The U.S. bishops and their critics: An economic and ethical perspective*. Vancouver, British Columbia: Fraser Institute, 1986. Pp. ix, 127. \$5.00, paper. ISBN 0-88975-085-8. JEL 87-0643

A critical response to the Catholic Bishops' Pastoral Letter. Part I addresses its philosophical basis and points to fallacies and inconsistencies in the treatment of economic rights and liberties. Part 2 is devoted to the economic policy content of the Letter and critiques its advocacy of policies in the area of employment, poverty, economic collaborations, and international economics. An appendix discusses certain positive elements of the Bishops' Pastoral Letter. Block is Senior Economist and Director of the Centre for the Study of Economics and Religion at the Fraser Institute. Bibliography; no index.

BLOCK, WALTER AND HEXHAM, IRVING, eds. *Religion, economics and social thought*. Vancouver, British Columbia: Fraser Institute, 1986. Pp. xxii, 573. Paper. ISBN 0-88975-076-9. JEL 87-0644

Twelve papers with comments, discussions, or replies presented at an International Symposium on Religion, Economics, and Social Thought in Vancouver, British Columbia, in August 1982. The Roman Catholic view is presented in a discussion of classical social doctrine in the Roman Catholic church and recent Roman Catholic teaching—a shift to the left. Christian social thought is reviewed in essays discussing Christian political economy from Malthus to Margaret Thatcher and clerical *laissez faire*. The essays on Christian Socialism examine the legacy of the Christian Socialist movement in England and religious commitment and political judgment. Other papers discuss Christian social thought in the Dutch neo-Calvinist tradition, minority themes, and the World Council of Churches and social and economic issues. Judaic social thought is examined from the perspective of Judaism's historical response to economic, social, and political systems and Judaism and the market mechanism. The last part is devoted to Islamic social thought. An overview of the papers is also

presented. The contributors are mainly theologians, religious philosophers, and economists. Block is Director, Centre for the Study of Economics and Religion and Senior Economist at the Fraser Institute. Hexham is a Professor in the Department of Religious Studies, University of Calgary, Alberta. Index.

HEILBRONER, ROBERT L. AND GALBRAITH, JAMES K. *The economic problem*. Revised eighth edition. Englewood Cliffs, N.J.: Prentice-Hall, [1968 . . . 1984] 1987. Pp. xix, 737. ISBN 0-13-233081-4.

JEL 87-0645

The major difference in this edition is replacement of Lester Thurow by James Galbraith as co-author. [See JEL no. 84-0304 for annotation of the seventh edition.] Significant changes include an expanded international focus, introduced in part one, which examines the question of America in the world economy. This focus continues in parts 3 and 4, dealing with macro- and microeconomics. Other features include added material on why economists disagree, a new approach to the deficit and monetary issues, and new consideration of welfare, poverty, and regulation in the micro section. Chapters include a summary of key concepts, an economic vocabulary, and questions, as well as a preview as an introduction. Heilbroner is the Norman Thomas Professor at the New School for Social Research in New York City. Galbraith is an Associate Professor at the Lyndon B. Johnson School of Public Affairs, University of Texas. Glossary; index.

KLAY, ROBIN KENDRICK. *Counting the cost: The economics of Christian stewardship*. Grand Rapids, Mich.: Eerdmans, 1986. Pp. vii, 187. \$9.95, paper. ISBN 0-8028-0171-4.

JEL 87-0646

Describes the tools of economic analysis and explains how they can be used in the light of Christian faith and ethics. Examines the nature and necessity of economic choice wherever private and social wants outstrip available resources. Discusses issues with important economic and moral dimensions: poverty in the United States, poverty among nations, protecting air and water resources, land use, trade policy, role of government in the economy, and U.S. security. Examines each of these issues in order to explore the facts, understand the economic forces at work, examine the policy options available, and provide linkages to Christian teachings. Chapters contain questions for further consideration. Klay is Associate Professor of Economics, Hope College, Holland, Michigan. No index.

MACFADYEN, ALAN J. AND MACFADYEN, HEATHER W., eds. *Economic Psychology: Intersections in theory and application*. Amsterdam; Oxford and Tokyo: North-Holland; distributed in the U.S. and

Canada by Elsevier Science, N.Y., 1986. Pp. viii, 687. \$92.50. ISBN 0-444-70072-2.

JEL 87-0647

Twenty papers, most with an editors' introduction, which consider economic psychology as a discipline. Topics include: economic phenomena from a psychological perspective, rational economic man, motivational constructs in psychology, opponent processes and the dynamics of consumption, microeconomics and the experimental analysis of behavior, economic interpretations of animal experiments, economic behavior and social learning, causal attributions in economic behavior, generation of psychological problems by economic variables, an eco-behavioral approach to social systems accounting, and time-allocation matrices and measures of the quality of life. The editors are at the University of Calgary. Name and subject indexes.

MCCONNELL, CAMPBELL R. *Economics: Principles, problems, and policies*. Tenth edition. New York; Auckland; Montreal and London: McGraw-Hill, [1963 . . . 1984] 1987. Pp. xxxi, 914. ISBN 0-07-044958-9.

JEL 87-0648

Tenth edition of a textbook designed to introduce the beginning economics student to those principles essential to an understanding of fundamental economic problems and policy alternatives. Changes include minor rewriting, updating, and the revitalization of pedagogical aids. Summary, terms and concepts, questions, study suggestions, and a "last word" follow each chapter. Also available are a *Study Guide*, programmed *Economic Concepts*, *Instructor's Resource Manual*, dual test banks, color transparencies, and software. McConnell is Professor of Economics at the University of Nebraska at Lincoln. Glossary; index.

PEARCE, DAVID W., ed. *The MIT dictionary of modern economics*. Third edition. Cambridge, Mass.: MIT Press, [1981, 1983] 1986. Pp. 462. \$12.50, paper. ISBN 0-262-66059-8.

JEL 87-0649

Updated and revised edition [see JEL no. 84-0011 for annotation of previous edition]. Coverage extends beyond the needs of first year students, yet does include basic phrases, concepts, and institutions. Entries contain cross references except where the item is self-contained. Includes many business terms, short biographies of celebrated economists, both living and dead, mathematical symbolism, and international institutions. Adds 150 definitions, bringing the total to 2,650 entries. Sixteen economists contributed to this edition. David W. Pearce is Professor of Political Economy at University College, London.

PHIELPS, EDMUND S. *Political economy: An introductory text*. New York and London: Norton; Mark-

ham, Ontario: Penguin Books Canada, 1985. Pp. xviii, 618. ISBN 0-393-85312-2. JEL 87-0650

Introductory economics textbook, focusing on political economy. Covers the scope and methods of economics, simple bilateral exchange, multilateral exchange, classical market theory and economic policy, the critique of classical system by Marx and the New Left, modern market equilibrium theory, and disequilibrium in modern market theory. Chapters contain summaries, important concepts, and study questions. The author is McKivikar Professor of Political Economy at Columbia University. Index.

POWELSON, JACK. *Facing social revolution: The personal journey of a Quaker economist*. With a foreword by JIM CORBETT and an afterword by KENNETH BOULDING. Boulder, Colo.: Horizon Society in cooperation with the Social Order Series of the Pacific Yearly Meeting of the Religious Society of Friends, 1987. Pp. v, 146. \$6.95, paper. ISBN 0-934449-03-1. JEL 87-0651

An account of the author's search for a compatible intellectual and religious view of the world. Part 1 highlights twenty-five years of the author's professional assignments and experiences in the third world as a consultant to various governments and staff member of international organizations, the IMF, Inter-American Development Bank, and Ford Foundation. Part 2 examines the record of history to add more meaning to the author's personal experiences and, in particular, those related to the chasm between rich and poor. Some topics are: land reforms by leverage vs. land reforms by grace; slavery; capital and profit; liberation theology; revolution; sanctions; and pacifism. The final chapter lists insights acquired by the author about the rightness of plural societies, decentralization of power, widespread ownership of wealth, compromise and conflict resolution rather than violence, and the importance of the slow growth of institutions. The author is Professor of Economics at the University of Colorado. Index.

REYNOLDS, LLOYD G. *The American economy in perspective*. Second edition. New York; Auckland; London and Montreal: McGraw-Hill, [1981] 1987. Pp. xxi, 489. \$24.95, paper. ISBN 0-07-052056-9. JEL 87-0652

Updated introductory economics textbook designed for a one-semester course for undergraduates. [For annotation of the first edition, see JEL no. 81-0618.] This edition simplifies some of the first edition language and includes updated statistics. Combines text and study guide to be self-contained. Chapters include listing of key points, "think about this" questions, list of key concepts,

chapter summary, and a study guide section with questions for self-testing by the student. Each chapter is self-contained so that sequence may be altered, though format follows a macro-micro model. In five parts: basic ideas, stability, efficiency, equity, and the world outside. Includes an economic dictionary. Reynolds is Sterling Professor Emeritus of Economics at Yale University. Index.

RUSSELL, JOHN J.; LEE, PATRICIA BECKER AND O'SHEA, ARGIE M., eds. *National trade and professional associations of the United States*, 1987. Twenty-second annual edition. Washington, D.C.: Columbia Books, 1987. Pp. 453. \$60.00, cloth; \$50.00, paper. ISBN 0-910416-63-X, pbk. JEL 87-0653

A directory of national trade and professional associations, including labor unions, technical societies, and other organizations with national memberships. Contains an alphabetical list of over 6000 organizations. Also includes a lists of association management companies. Entries include name of executive director, size of membership, number of staff members, annual budget, relevant historical notes, publications, and dates of meetings. Directory information is also available in mailing list form. Subject, geographic, budget, and acronym indexes.

WHITEHEAD, DAVID J., ed. *Economics education: A second handbook for economics teachers*. London; Melbourne; Portsmouth, N.H. and Kingston: Heinemann Educational Books, 1986. Pp. 294. \$12.50, paper. ISBN 0-435-33750-5. JEL 87-0654

A handbook for economics teachers contains sixty-one papers, most previously unpublished. Organized in three parts: teaching economics to the 13-16 age range; teaching economics to the 16-19 age range; and resources, assessment, and organization. The contributors are teachers of economics. Whitehead is Senior Lecturer in Economics Education at the London University Institute of Education. Annotated list of useful addresses in England; index.

See also: Book Number JEL 87-0686

020 GENERAL ECONOMIC THEORY

[ARROW, KENNETH J.] *Equilibrium analysis: Essays in honor of Kenneth J. Arrow*. Volume 2. Edited by WALTER P. HELLER, ROSS M. STARR, AND DAVID A. STARRETT. Cambridge; New York and Melbourne: Cambridge University Press, 1986. Pp. xx, 318. \$34.50. ISBN 0-521-30455-5. JEL 87-0655

Twelve papers discuss current issues in equilibrium analysis. Part 1 deals with general equilibrium and includes a general equilibrium theory of North-South trade; a theory of occupational choice related to army recruitment; analysis of the dynamics of industry-wide learning; decentralized trade in a credit economy; public debt in the overlapping generations model; and coordination failure under complete markets. Part 2 discusses microfoundations of macroeconomics and covers price flexibility, inventory behavior, and production behavior; asymmetric information, unemployment, and inflexible wages; asymmetric adjustment costs and sectoral shifts; implicit contracts and risk aversion; non-Walrasian analysis; and monopolistic competition and the multiplier. [See JEL nos. 87-0656 and 87-0657 for annotations of Volumes 1 and 3, respectively.] The contributors are mainly economists. Heller and Starr are both at the University of California, San Diego. Starrett is at Stanford University. Author index.

[ARROW, KENNETH J.] *Social choice and public decision making: Essays in honor of Kenneth J. Arrow*. Volume 1. Edited by WALTER P. HELLER, ROSS M. STARR, and DAVID A. STARRETT. Cambridge; New York and Sydney: Cambridge University Press, 1986. Pp. xix, 215. \$34.50. ISBN 0-521-30454-7. JEL 87-0656

Ten papers review topics in social choice and decision making in the public sector. Part 1 discusses issues in social choice and covers: consequentialist social norms; information and invariance in normative choice; the relevance of utilitarian morality; social choice rules in irrational societies; and axiomatic approaches to Walrasian social choice. Part 2 deals with approaches to public decision making. Topics include: testing for optimality in the absence of convexity; a theory of planning; the social risk premium; the determination of financial market equilibrium when the timing of tax payments is indeterminate; and the shadow price of capital. [See JEL nos. 87-0655 and 87-0657 for annotations of Volume 2 and 3, respectively.] The contributors are mainly economists. Heller and Starr are both at the University of California, San Diego. Starrett is at Stanford University. Author index.

[ARROW, KENNETH J.] *Uncertainty, information, and communication: Essays in honor of Kenneth J. Arrow*. Volume 3. Edited by WALTER P. HELLER, ROSS M. STARR, and DAVID A. STARRETT. Cambridge; New York and Melbourne: Cambridge University Press, 1986. Pp. xx, 282. \$34.50. ISBN 0-521-32704-0. JEL 87-0657

Eleven papers discuss current issues in uncertainty, information, and communication. Part 1 deals with topics in uncertainty and covers: negotiation in games; exploitation of a long-term principal-agent relationship to escape inefficiency of short-term equilibria; the characteristics of competitive allocations in incomplete asset markets; asset pricing theories; personal probability axioms; and a new approach to univariate and multivariate comparisons of risk aversion. Part 2 covers topics in uncertainty, communication, and organization and includes analyses of the cost of communication in economic organization; assembling efficient organizations; optimal Bayesian mechanisms; incentive theory with data compression; and alternative limited communication systems. The contributors are mainly economists. [See JEL nos. 87-0656 and 87-0655 for annotations of Volumes 1 and 2, respectively.] Heller and Starr are at the University of California, San Diego. Starrett is at Stanford University. Author index.

BARRO, ROBERT J. *Macroeconomics*. Second edition. New York; Chichester; Toronto and Singapore: Wiley, [1984] 1987. Pp. xiv, 608. ISBN 0-471-85125-6. JEL 87-0658

Second edition of a textbook for undergraduate courses in intermediate macroeconomics. Presents and uses the market-clearing approach as a general method for analyzing real-world problems. Changes include: expanded treatment of employment and unemployment, changes in the expositions of rational-expectations macroeconomics and the Keynesian theory of business fluctuations, and shortening of material on microeconomic foundations and investment. Each chapter contains a summary, list of important terms and concepts, and questions and problems. [For annotation of first edition, see JEL no. 84-0961.] Barro is at the University of Rochester. Glossary; bibliography; author and subject indexes.

BROER, D. P. *Neoclassical theory and empirical models of aggregate firm behaviour*. Advanced Studies in Theoretical and Applied Econometrics series, vol. 8. Norwell, Mass.; Dordrecht, the Netherlands and Lancaster: Kluwer Academic, 1987. Pp. 343. \$69.00. ISBN 90-247-3412-6. JEL 87-0659

Investigates the construction of models that describe the aggregate behavior of business enterprises by the specification and empirical testing of a model in which aggregate business behavior results from the maximization of net worth subject to a number of constraints relating to the available technology, market conditions, and information. Analyzes the consequences of a number of assump-

tions about external conditions. Incorporates factor utilization rates and analyzes the link between those rates and factor stock adjustments. Explains firm decisions within a choice-theoretic framework, assuming vintage technology. Discusses the non-vintage model and the theoretical aspects of the vintage-related model. Tests both models on samples of Dutch and American data. Repeats the tests for the putty-clay model and compares the explanatory power of the two different technological assumptions. Concludes that neoclassical analysis can be successfully applied to the explanation of aggregate business behavior. Based on the author's doctoral dissertation, submitted to Erasmus University (1985). Author and subject indexes.

- BÜTTLER, HANS-JÜRG; FREI, GERTRUD AND SCHIPS, BERND, eds. *Estimation of disequilibrium models*. Lecture Notes in Economics and Mathematical Systems series, vol. 279. New York; Berlin; London and Tokyo: Springer, 1986. Pp. 114. \$16.00, paper. ISBN 0-387-16817-6. JEL 87-0660

Discusses the use of disequilibrium models for analysis of single markets in disequilibrium. Reviews the nature of the debate regarding macroeconomic model building. Describes the process of specification of the canonical disequilibrium model and the estimation techniques employed. Demonstrates the applicability of these estimation techniques to the analysis of investment in residential construction, changes in the stock of money, and the aggregate labor market. Büttler is with the Swiss National Bank, Zurich. Frei and Schips are associated with Hochschule, St. Gallen, Switzerland. No index.

- COLEMAN, JAMES S. *Individual interests and collective action: Selected essays*. Studies in Rationality and Social Change series. Cambridge; New York and Melbourne: Cambridge University Press in collaboration with Maison des Sciences de l'Homme, Paris, 1986. Pp. ix, 384. \$54.50. ISBN 0-521-30347-8. JEL 87-0661

Sixteen papers, fifteen previously published, present the author's central ideas in social theory. Papers investigate problems of social organization and the relation of the individual to collective action and are based on a paradigm of rational action. Six papers consider collective decisions and social choice as a fundamental problem in the functioning of social systems. The next six papers focus on power and discuss political money, control of collectivities and the power of a collectivity to act, constitutional power in experimental health service and delivery systems, the legitimate and illegitimate use of power, processes of concentration and dispersal of power in social systems, and the corpo-

rate structure of the economy and its effects on income. The remaining four papers examine questions about the creation of constitutions and the rights that are allocated in constitutions. Bibliography; index.

- DIEWERT, WALTER E. *The measurement of the economic benefits of infrastructure services*. Lecture Notes in Economics and Mathematical Systems series, vol. 278. New York; Berlin; London and Tokyo: Springer, 1986. Pp. 202. \$23.10, paper. ISBN 0-387-16810-9. JEL 87-0662

Provides a methodology for evaluating the benefits (particularly to producers) of government infrastructure investments in utilities, communication, transportation, and land development. Develops a measure of infrastructure benefits and examines various concepts (e.g., willingness-to-pay functions, marginal cost functions, and approximate benefit measures) and problems associated with the producer benefit measurement and considers their advantages and disadvantages. Further explores the econometric approach with discussions about selection of a functional form, selection and measurement of variables, and the estimation of restricted profit functions in time-series and cross-sectional contexts. The appendices elaborate on properties of restricted profit, cost, and expenditure functions and proofs of propositions. Diewert is a member of the Department of Economics, University of British Columbia, Vancouver. No index.

- DORNBUSCH, RUDIGER AND FISCHER, STANLEY. *Macro-economics*. Fourth edition. New York; Auckland; London and Montreal: McGraw Hill, [1978 . . . 1984] 1987. Pp. xiv, 798. \$36.95. ISBN 0-07-017776-7. JEL 87-0663

Revised and updated fourth edition of an introductory macroeconomics textbook [see JEL no. 84-0636 for annotation of the third edition], which presents theory and its empirical relevance and policy applications. Major changes include: open economy macroeconomics has been moved to the chapter on "international linkages"; the introduction to aggregate supply and demand precedes the chapters on aggregate demand; a new chapter on money, deficits, and inflation has been added; coverage of the microfoundations of macroeconomics and of the rational expectations-equilibrium approach has been increased; and the dynamic model of aggregate supply and demand has been restored to the text. Chapters conclude with a summary, listing of key terms, and problems. Instructor's manual, book of case studies and readings, data diskette, yearly updates, and a study guide are also available. The authors are members of the

Department of Economics, Massachusetts Institute of Technology. Index.

ELSTER, JON, ed. *The multiple self*. Studies in Rationality and Social Change series. Cambridge; New York and Sydney: Cambridge University Press in collaboration with Maison des Sciences de l'Homme, Paris, 1986. Pp. ix, 269. ISBN 0-521-28033-7. JEL 87-0664

Nine papers and an introduction by the editor on the study of the foundations of rationality. Most of the papers were originally presented at workshops set up under the auspices of the Maison des Sciences de l'Homme, Paris, in January 1980 and 1982. Papers explore the idea that the individual person may be seen as, or is, a set of sub-individual, relatively autonomous "selves," incorporating developments in philosophy, psychology, and economics. General study areas are: the loosely integrated self, self-deception and weakness of will, Faustian selves, hierarchical selves, successive selves, parallel selves, the Freudian legacy, split-brain theory, *homo economicus* and *homo sociologicus*, and the "no-self theory." Some specific topics are: self-deception and the voter's illusion; self-deception, *akrasia*, and irrationality; conflict among interests in a multiple self as a determinant of value; the mind as a consuming organ; and Goethe's *Faust*, Arrow's Possibility Theorem and the individual decision-taker. Contributors are mainly economists, philosophers, and psychologists. Elster is Professor of Political Science and Philosophy, University of Chicago. Index of names.

FABER, MALTE, ed. *Studies in Austrian capital theory, investment and time*. Lecture Notes in Economics and Mathematical Systems series, vol. 277. New York; Berlin; London and Tokyo: Springer, 1986. Pp. vi, 316. \$30.30, paper. ISBN 0-387-16804-4. JEL 87-0665

Seventeen papers, six published previously, that apply modern Austrian capital theory to models with finite and infinite horizons, problems of time irreversibility and investment, dynamic games with macroeconomic investment, and the treatment of time irreversibilities in economics. The first four papers outline the development of Austrian capital theory, relate it to Piero Sraffa's theory, present the Austrian subjectivists' pure time preference theory of interest, and discuss Austrian functionalist versus essentialist theories of interest. Two papers consider: (1) a neo-Austrian two-period multisector model of capital and (2) interest rates in a general multisector model of capital. Four papers concern models with infinite time horizons and discuss open-endedness of the future; propor-

tional prices with positive rate of interest relative to the growth rate; roundaboutness, nontightness, and Malinvaud prices; and competitive finite value prices. The next two papers discuss period vs. continuous analysis of time and production and flow-and-fund approaches to irreversible investment decisions. Four papers use a dynamic game-theoretical framework to analyze macroeconomic investment decisions under alternative market structures. The last paper applies lessons from the natural sciences to time irreversibilities in economics. The contributors are mainly economists. Faber is at the Alfred Weber Institute, University of Heidelberg. No index.

FELDERER, BERNHARD AND HOMBURG, STEFAN. *Macroeconomics and new macroeconomics*. Revised translation. New York; Berlin; London and Tokyo: Springer, [1984] 1987. Pp. xiii, 329. \$49.00. ISBN 0-387-16061-X. JEL 87-0666

Revised translation of the second edition of *Makroökonomik und Neue Makroökonomik* (1985), a textbook designed for both undergraduate and graduate students. Discusses the most important doctrines in a historical order, substantiating and criticizing each, and presenting major differences. Excludes some standard macro topics such as foreign trade and economic growth. Parts 1 and 2—fundamentals and macroeconomics—are designed for a one-term undergraduate course. They deal with methodological considerations, theories and models, equilibrium and disequilibrium, statics and dynamics, *ex post* and *ex ante* analysis, and partial versus total analysis. Also presents a historical survey including classicists, neoclassicists, and Keynesians. Reviews fundamentals of national income accounting. The classical and Keynesian views are presented in detail and are compared along with monetarism. Part 3 is intended for more advanced undergraduates and deals with more recent developments in macroeconomics, such as portfolio selection, monetarism, rational expectations, and neo-Keynesian disequilibrium theory. Chapters contain reading lists. Much of the mathematical analyses is contained in an appendix. Felderer and Homburg are at the University of Cologne. Bibliography; subject and author indexes.

FISCHER, STANLEY, ed. *NBER Macroeconomics Annual 1986*. Cambridge, Mass. and London: MIT Press, 1986. Pp. 409. \$35.00, paper. ISBN 0-262-56037-2. JEL 87-0667

A new annual series aiming to "encourage and disseminate research on real macroeconomic problems." This book includes six articles and discussions initially presented at a conference at Cambridge, Massachusetts in March 1986. Olivier J.

Blanchard and Lawrence H. Summers examine the causes of high unemployment in Europe. Fumio Hayashi examines why the Japanese have such a high rate of savings, emphasizing the importance of the extended family and bequests as causes. Martin S. Feldstein establishes links between the budget deficit and the exchange rate. Martin Eichenbaum and Kenneth J. Singleton present and interpret some new evidence on the validity of the real business cycle approach to cycle analysis. Lawrence F. Katz surveys recent developments in the literature on efficiency wage theories of unemployment. Martin L. Weitzman examines macroeconomic implications of profit sharing. No index.

FUERLE, RICHARD D. *The pure logic of choice*. New York: Vantage Press, 1986. Pp. xvii, 221. \$13.95. ISBN 0-533-06401-5. JEL 87-0668

Argues that economics is not an inductive, but a deductive science. Explores the foundations of economics and presents a restatement of a deductive theory of economics, called "praxeology" as suggested by Ludwig von Mises and others of the Austrian School. Discusses laws, proof of laws, and the basis of praxeology. Examines praxeological laws and non-consensual relationships as they relate to economics. The author's background is in economics and law. Glossary; bibliography; index.

GREENHUT, MELVIN L.; NORMAN, GEORGE AND HUNG, CHAO-SHUN. *The economics of imperfect competition: A spatial approach*. Cambridge; New York and Melbourne: Cambridge University Press, 1987. Pp. xix, 408. \$54.50, cloth; \$17.95, paper. ISBN 0-521-30552-7. JEL 87-0669

Application of spatial analysis to imperfect competition. Presents a theory of imperfect competition and nondiscriminatory pricing, considers its relevance to economic development and merger policies, and develops a spatial perspective on product differentiation. Outlines a model of discriminatory pricing and alternative demand conditions, considers alternative pricing policies, the nature of market overlap, intraindustry trade, constrained optimization, international and intranational pricing, dynamic market strategy, and heterogeneous prices and heterogeneous goods. Discusses the spatial approach to pricing, location, and competition and the nature of the long-run equilibrium properties of the imperfectly competitive economy. Greenhut is associated with Texas A&M University, Norman with the University of Leicester, and Hung with Florida Atlantic University. Bibliography; author and subject indexes.

HANNEQUART, ACHILLE AND GREFFE, XAVIER. *Economie des interventions sociales (Economics of social interventions)*. Paris: Economica and Cabay; distributed in North America by Diffuseur G. Vermette, Boucherville, Quebec, 1985. Pp. 264. Fr 96.00; Can\$ 27.50, paper. ISBN 2-87077-325-0. JEL 87-0670

The authors examine the rationale for government intervention in a modern economy. The book contains fifteen chapters dealing successively with the following themes: the role and the functions of bureaucratic organization; the regulatory process and judicial institutions; policy financing; measures and process for implementing a social intervention. Hannequart is a professor at the Catholic University of Louvain and of Mons (Belgium), and Greffe is a professor at the University of Paris-I and at the Ecole d'Administration Publique. Bibliography; no index. [Jean Mirucki]

HEILBRONER, ROBERT L. AND GALBRAITH, JAMES K. *Understanding macroeconomics*. Revised eighth edition. Englewood Cliffs, N.J.: Prentice-Hall, [1965 . . . 1984] 1987. Pp. x, 484. Paper. ISBN 0-13-936907-4. JEL 87-0671

Revised eighth edition of an introductory macroeconomics textbook [see JEL no. 84-0638 for annotation]. New focuses include greater emphasis on recession and international competition. Gives greater and extended treatment to issues and unresolved controversies relating to supply-side economics, monetarism and Keynesianism. Heilbroner and Lester Thurow were coauthors of the first eight editions. Chapters include a preview, a summary, an economic vocabulary, and questions. Heilbroner is the Norman Thomas Professor at the New School for Social Research. Galbraith is Associate Professor at the Lyndon B. Johnson School of Public Affairs, University of Texas at Austin. Glossary; index.

HEILBRONER, ROBERT L. AND GALBRAITH, JAMES K. *Understanding microeconomics*. Revised eighth edition. Englewood Cliffs, N.J.: Prentice-Hall, [1968 . . . 1984] 1987. Pp. xi, 454. Paper. ISBN 0-13-936915-5. JEL 87-0672

Revised and updated edition of an introductory microeconomics textbook [see JEL no. 84-0639 for annotation]. Text is divided into four parts: economic history and background, economic science, the market mechanism or microeconomics, and international economics. Previous editions were coauthored by Heilbroner and Lester Thurow. Chapters contain a preview, summary, vocabulary, and questions. Heilbroner is the Norman Thomas Professor at the New School for Social Research.

Galbraith is Associate Professor at the Lyndon B. Johnson School of Public Affairs, University of Texas at Austin. Glossary; index.

KRIFFENDORFF, KLAUS. *Information theory: Structural models for qualitative data*. Quantitative Applications in the Social Sciences Series, Sage University Paper, no. 62. Beverly Hills; London and New Delhi: Sage, 1986. Pp. 96. \$6.00, paper. ISBN 0-8039-2051-2. JEL 87-0673

Monograph on circular causal or simultaneous dependencies that escape analysis by most established techniques, written as a source book for social scientists and researchers and as a textbook for advanced undergraduate and graduate students. Presents those facets of information theory that are needed to search for and test structural models of qualitative data, i.e., models that exhibit complex relations among their component parts and rely on these relations to interpret given data. Topics include: qualitative data; selective information; entropy, diversity, and variety; Shannon's theory of communication; comparisons of qualitative variates; structural models; models with and without loops; information in models and in data; structural zeros; degrees of freedom; significance of information quantities; maximum entropy computations; and confirmation, exploration, and comparisons with other approaches. The author is a Professor at the Annenberg School of Communications, University of Pennsylvania. No index.

LAFFONT, JEAN-JACQUES. *Cours de théorie microéconomique*. Volume 2. *Economie de l'incertain et de l'information* (Course in microeconomic theory. Volume 2. *Economics of uncertainty and of information*). Economie et Statistiques Avancées. Paris: Economica; distributed in North America by Diffuseur G. Vermette, Boucherville, Quebec, 1985. Pp. 201. Fr 115.00; Can\$ 27.00, paper. ISBN 2-7178-0893-0. JEL 87-0674

The second volume of a graduate textbook on microeconomic theory is presented as a stand alone manual. The first four chapters describe analytical techniques on the theory of individual behavior in the presence of uncertainty, risk measurement and aversion, structure of information and the notion of certainty equivalence. The six remaining chapters deal with selective aspects of the theory of information: market equilibrium with uncertainty; market equilibrium with incomplete markets and rational expectations; risk-sharing and optimality in the stock market and in the insurance market; informationally efficient markets; equilibrium with asymmetric information. Five problems with detailed solutions are included at the end of

the volume. Laffont is a professor at the University of Toulouse and Directeur d'Etudes at the E.H.E.S.S., Paris. Bibliography; no index. [Jean Mirucki]

NICHOLSON, WALTER. *Intermediate microeconomics and its application*. Fourth edition. Chicago; Montreal; London and Sydney: Dryden, [1975 . . . 1983] 1987. Pp. xxvii, 627. ISBN 0-03-007799-0. JEL 87-0675

Fourth edition of an introductory textbook on microeconomic theory and applications. [See JEL no. 83-0330 for annotation of the previous edition.] Changes include: adoption of a two-color format, new chapters on the modern theory of the firm (including issues in implicit labor contracts, the principal-agent problem, and the market for corporate control) and public goods and public choice theory; revised and updated treatment of general equilibrium and welfare economics; expanded background material in elementary algebra, game theory, and the mathematics of compound interest; new learning aids; a new workbook and a study guide which is also available on computer disk; and reduction in the number of chapters by combining material that previously appeared in separate chapters. Chapters contain summaries, problems, and applications to current situations. Also contains solutions to odd-numbered problems. Nicholson is Professor of Economics, Amherst College. Glossary; author and subject indexes.

RASHID, SALIM. *Economies with many agents: An approach using nonstandard analysis*. Baltimore and London: Johns Hopkins University Press, 1987. Pp. xii, 160. \$30.00. ISBN 0-8018-3379-5. JEL 87-0676

Argues that nonstandard analysis is a powerful mathematical tool for rendering economic intuitions precise; illustrates this using the economic topic of economies with many agents. Chapters examine: why economists study economies with an infinite number of agents; what nonstandard analysis does; and the relationship of nonstandard models to standard approaches. Concludes with a comparison of nonstandard versus measure-theoretic models. Rashid is Professor of Economics, University of Illinois. Bibliography; author and subject indexes.

ROTH, TIMOTHY P. *The present state of consumer theory*. Lanham, Md. and London: University Press of America, 1987. Pp. vi, 168. \$26.50, cloth; \$13.75, paper. ISBN 0-8191-5700-0. JEL 87-0677

A critical assessment of current consumer theory. Discusses models and model building, commenting on the methodological positions of descriptivism, instrumentalism, and the explanatory-informative view. Analyzes ordinal utility theory, its postulates, and technical extensions. Examines the Lancasterian or "New Approach" to consumer theory, where the arguments in the utility function are characteristics of the goods and services. Discusses the multiequation utility function, the household production function, and procedural rationality and the technology of choice. Concludes with a postscript on empirical demand estimation. Roth is the A. B. Templeton Professor and Chairman of the Department of Economics and Finance at the University of Texas, El Paso. No index.

SARGENT, THOMAS J. *Dynamic macroeconomic theory*. Cambridge, Mass. and London: Harvard University Press, 1987. Pp. xii, 369. \$35.00. ISBN 0-674-21877-8. JEL 87-0678

Describes and illustrates several dynamic general equilibrium models and applies them to problems in macroeconomics and monetary economics; suitable for use in graduate-level courses. Introduces discounted dynamic programming, the theory of search, and asset prices and consumption. Then focuses on monetary economics and government finance. Introduces currency in the utility function model and considers and uses cash-in-advance models as well as models that relate to credit and currency with long-lived agents and with overlapping generations. The last chapter discusses government finance in stochastic overlapping generations models. Each chapter contains exercises and suggested readings. A companion book with answers to the exercises is also available. Sargent is Professor of Economics, University of Minnesota. Index.

SEMMLER, WILLI, ed. *Competition, instability, and nonlinear cycles: Proceedings of an international conference, New School for Social Research, New York, USA, March 1985*. Lecture Notes in Economics and Mathematical Systems series, vol. 275. New York; Berlin; London and Tokyo: Springer, 1986. Pp. xii, 340. \$35.20, paper. ISBN 0-387-16794-3. JEL 87-0679

Fifteen papers on competition, instability, and nonlinear cycles. Part 1 includes papers on modeling the cross-dual dynamics of competition and covers the dynamic equalization of profit rates, a cross-over gravitation process in prices and inventories, stability of production prices and ergodic price setting with technical progress. Part 2 deals with the microfoundations of macrodynamics and limit cycles and covers the price and quantity dy-

namics of a Sraffa/von Nuemann production price system, stability in a dynamic model of capitalist production, the microdynamics of a nonlinear macrocycle model, and stabilization policy in a business cycle model. Part 3 investigates linear and nonlinear macrodynamics and includes extensions of the classical growth cycle model, a Keynesian model with perfect foresight, and the interdependent dynamics of cyclical growth in industry and agriculture. Part 4 relates to the econometrics of the dynamics of proportions and nonlinear macrodynamics. The contributors are mainly economists. Semmler is a member of the Department of Economics, New School of Social Research. No index.

SUGDEN, ROBERT. *The economics of rights, co-operation and welfare*. Oxford and New York: Blackwell, 1986. Pp. vii, 191. \$45.00. ISBN 0-631-14449-8. JEL 87-0680

Investigates the extent to which people can, in a state of anarchy, coordinate their behavior and maintain a social order without the formal machinery of law and government. Contends that if individuals pursue their own interests in a state of anarchy, that order, in the form of conventions of behavior, can arise spontaneously. Argues that although the conventions need not significantly maximize social welfare, they tend to become norms and represent a coherent system of morality. Uses a game theory framework to analyze the evolution of rules of justice, discussing coordination, property, possession, reciprocity, free riders, natural law, and the coordination of rights, cooperation, and welfare. Sugden is Professor of Economics at the University of East Anglia. Index.

See also: Book Numbers JEL 87-0659, 87-0678, 87-0679, 87-0684, 87-0695, 87-0718, 87-0723, 87-0725, 87-0734, 87-0800, 87-0838, 87-0858, 87-0861, 87-0878, 87-0879

030 HISTORY OF ECONOMIC THOUGHT; METHODOLOGY

BABBAGE, CHARLES. *On the economy of machinery and manufactures*. Reprint of fourth edition enlarged. Reprints of Economic Classics series. Fairfield, N.J.: Kelley, [1832 . . . 1835] 1986. Pp. xxiv, 408. \$39.50. ISBN 0-678-00001-8. JEL 87-0681

An attempt to present the reader with an enumeration of the mechanical principles underlying the application of machinery to arts and manufacturing, tracing the consequences of using machinery to replace the skill of the human arm. Comments on principles of political economy, noting their historical foundations and presenting facts and anecdotes to illustrate his thought about them. Discusses, among other topics, the advantages of

using machinery and manufacturing; accumulating and regulating power, describing several mechanical operations and making suggestions for better use; saving time; registering operations; economy of materials; methods for observing manufacturing; the influence of durability on price; raw materials; division of labor; position of large factories; proper circumstance for the application of machinery; combinations; how machines affect the demand for labor; legal restrictions; and exporting machinery. Concludes with a discussion of the relationship between science and machines. Includes prefaces to first three editions. Index.

BURTON, JOHN, ET AL. *Keynes's General Theory: Fifty years on, its relevance and irrelevance to modern times*. Hobart Paperback series, no. 24. London: Institute of Economic Affairs; distributed in North America by Transatlantic Arts, Albuquerque, N.M., 1986. Pp. viii, 159. \$9.50, paper. ISBN 0-255-36197-1. JEL 87-0682

Discusses Keynes's *General Theory of Employment, Interest and Money* and the relevance of Keynes, especially in view of changing emphasis in economic analysis. In the introductory essay, "Fifty Years On: Background and Foreground," Burton describes the *General Theory* as challenging in many ways the entire tradition of classical economics. Discusses the Keynesian revolution and the "Age of Keynes," the emergence of stagflation and doubts, the monetarist reinterpretation, the resurgence of Austrian economics, expectations and the fundamental Keynesian view, the rational expectations revolution, and public choice and the motives of government—all as related to Keynesianism. Leland B. Yeager examines the Keynesian heritage in economics; Milton Friedman discusses Keynes's political legacy; Karl Brunner analyzes Keynes's intellectual legacy; Michael R. Darby and James R. Lothian investigate economic events and Keynesian ideas in the 1930s and the 1970s; Alan Walters examines consumption, savings, and the multiplier; Patrick Minford discusses expectations and the economy; Michael Beenstock considers secular stagnation and the world economy; and Alan Budd comments on Keynesian unemployment and the unemployment of Keynes. Burton is Research Director of the Institute of Economic Affairs. Glossary; no index.

DUMEZ, HENRI. *L'économiste, la science et le pouvoir: le cas Walras (The economist, science and power: The case of Walras)*. Paris: Presses Universitaires de France; distributed by Les Éditions Française, Boucherville, Quebec, 1985. Pp. 272. Fr 150.00; Can\$ 43.65, paper. ISBN 2-13039-095-1. JEL 87-0683

Describes the development of the career of Léon Walras, and his confrontations with France's scientific and political institutions. The author considers Walras as a producer of a specific doctrine, who attempted to penetrate the markets of economic and political ideas in order to diffuse his own approach, given the sociological context at the turn of this century. The first part presents the environment in which Walras' career was evolving: the social demand for economic knowledge; the forms of economic training; economic concepts versus modeling techniques. The second part examines the path of his career and the progress of his ideas: the first obstacles; the nomination in Lausanne; the political contacts; the essence of his contribution. Dumez is a researcher at the Centre de Recherche en Gestion de l'Ecole Polytechnique (Paris). Bibliography; author and subject indexes. [Jean Mirucki]

ENGLAND, RICHARD W., ed. *Economic processes and political conflicts: Contributions to modern political economy*. New York and London: Praeger, 1987. Pp. x, 323. \$39.95. ISBN 0-275-92451-3. JEL 87-0684

Fourteen essays, several published previously, dedicated to Dr. Sam Rosen, Professor Emeritus of Economics, University of New Hampshire. Papers focus on the recent history of economic thought in the United States from the perspective of radical economics. Each of the essays "reflects the premise that economic phenomena can be understood only within a historical context and that those phenomena are intertwined with political struggles." Divided into six parts: issues of methodology; precapitalist modes of production; profit, accumulation, and crisis; gender and class; labor, capital, and the state; and transition to socialism. Specific topics include: dialectic of matter versus dialectic of history; a critique of Michio Morishima's mathematical Marxism; class relations and predatory accumulation; Marxist rethinking of third world rural industrialization; accumulation and crisis; ecology, social class, and political conflict; women as a labor reserve; feminist theories of gender and class; class struggle and scientific management; state strategies of control in the public sector; and experiences in Algeria and Grenada. The contributors are mainly economists. England is Professor of Economics at the University of New Hampshire. Index.

FINE, BEN, ed. *The value dimension: Marx versus Ricardo and Sraffa*. Economy and Society series. London and New York: Routledge and Kegan Paul, 1986. Pp. 239. \$15.95, paper. ISBN 0-7103-0766-2. JEL 87-0685

Eight papers, most previously published, present the major elements of the debate regarding the transformation problem. An introductory essay outlines the major strands in, and the evolution of, the debate regarding the Marxian problem of the transformation of values on prices. Papers examine the law of value in David Ricardo and Karl Marx; the importance of the transformation problem in Marx's *Critique of Political Economy*; I. Steedman's critique of Marx's theory of value; Marx's theory of agricultural rent; the "corn-profit" model and the views of Thomas R. Malthus, Ricardo, and Piero Sraffa; certain errors in the interpretation of Marx's views regarding the transformation of values and prices; and a reformulation of and solution to the problem. The contributors are: Ben Fine, Geoffrey Pilling, Ira Gerstein, Heiner Ganssmann, Gilbert Faccarello, and Guglielmo Carchedi. Fine is Reader in Economics at Birkbeck College, University of London. No index.

GHOSH, RANEN. *Economic science—Whereto?* Calcutta: Ranitra Books, 1986. Pp. viii, 78. \$4.00, paper. JEL 87-0686

Offers a highly critical evaluation of today's economics, using criteria for determining whether a discipline is a science to evaluate economics. Classifies micro and macro theory and econometrics as the most scientific. Questions whether economics can justify its existence, pointing to the failures of economists in practical life, and criticizes economists for not being clear about the issues they discuss. Calls the concept of equilibrium a "serious misconception" and credits mathematical and econometric methods with salvaging economics. Sees the measurement of noneconomic qualitative variables and their effect on economic models and research in disequilibrium analysis as steps in a positive direction toward appropriate model-building and correct interpretation of estimated models. Contends that development economics has not made significant impact and that tools of planning, particularly input-output analysis, are simplistic and out of touch with real-life phenomena. Ghosh is an econometrician, currently engaged on research in Development Economics. Index.

HELBURN, SUZANNE W. AND BRAMHALL, DAVID F., eds. *Marx, Schumpeter, Keynes: A century celebration of dissent*. Armonk, N.Y. and London: Sharpe, 1986. Pp. xii, 343. \$35.00, cloth; \$16.95, paper. ISBN 0-87332-380-7. JEL 87-0687

Sixteen papers first presented at a symposium at the University of Colorado at Denver in April 1983, marking the 100th anniversary of the death of Karl Marx, the birth of John Maynard Keynes, and the centenary of the birth of Joseph A. Schum-

peter. Symposium was concerned with the questions asked by each and the role of dissent in economic thought. Part 1 discusses the place of economics in the study of society, how far economics as currently structured helps to understand the world, and the philosophy of science that underlies the study of economics. The next three parts are devoted to the analysis of Marx, Schumpeter, and Keynes, beginning in each instance with their research. Part 5 examines the impact of each of the three on selected research and policy issues, such as the prospects for advanced capitalist economies, the instability of the capitalist growth process, and government economic policy. The last part is a summary of the earlier themes. Helburn and Bramhall both are Professors of Economics at the University of Colorado at Denver. No index.

MALTHUS, THOMAS ROBERT. *Definitions in political economy*. Reprints in Economic Classics series. Fairfield, N.J.: Kelley, [1827] 1966. Pp. xvi, 261. \$29.50. ISBN 0-678-00018-2. JEL 87-0688

Contains Malthus's review of economic doctrine. Organized primarily around the meaning and usage of key terms by individual authors, but does consider some theoretical problems and develops some of Malthus's own ideas, including those on aggregate demand, measuring value over time, and Say's laws. States the object of the book is to "draw attention to an obstacle in the study of political economy," namely the differences of opinion among the political economists, and to set forth the foundation for a "correct definition and application of terms." After a brief presentation of the rules for definition and application of terms, examines the use of concepts by the Physiocrats, Adam Smith, M. Say, David Ricardo, James Mill, James Ramsey McCulloch, and an anonymous writer on value. The last two chapters present definitions and commentaries on them. No index.

MALTHUS, THOMAS ROBERT. *An essay on the principle of population or a view of its past and present effects on human happiness*. Reprint of seventh edition. Reprints of Economic Classics series. Fairfield, N.J.: Kelley, [1798 . . . 1972] 1966. Pp. xv, 551. \$39.50. ISBN 0-678-00638-8. JEL 87-0689

Historical examination of the effects of the principle of population on the state of society, in the attempt to give it a more "practical and permanent interest." The four books in the volume generally discuss checks to population in the past in the less civilized parts of the world, checks in then modern Europe, expedients to treat the evils of population growth, and future prospects for mitigating the

principle of population. Includes prefaces to the second and fifth editions. Index.

MALTHUS, THOMAS ROBERT. *Principles of political economy: Considered with a view to their practical application*. Reprint of second edition. With an introduction by MORTON PAGLIN. Reprints of Economic Classics series. Fairfield, N.J.: Kelley, [1820, 1836] 1986. Pp. liv, 446. \$39.50. ISBN 0-678-00038-7. JEL 87-0690

Reprint of the second edition is preceded by a discussion of Malthus's *Principles* and the *Classical Tradition* written by Morton Paglin in 1964. Text deals with topics such as the definition of wealth and productive labor; the nature, causes, and measures of value; the rent of land; the wages of labor; the profits on capital; the distinction between wealth and value; and the progress of wealth. Index.

MARX, KARL AND ENGELS, FREDERICK. *Karl Marx, Frederick Engels. Collected Works*. Volume 22. *Marx and Engels: 1870-71*. New York: International; London: Lawrence and Wishart; Moscow: Progress in collaboration with the Institute of Marxism-Leninism, Moscow, 1986. Pp. xxxiv, 785. \$15.00. ISBN 0-7178-0522-0. JEL 87-0691

Contains eighty-two works by Marx and Engels, seventeen published in English for the first time. Covers works written between the latter half of July 1870 and the end of October 1871. Includes most of their articles, statements, and letters to newspapers directly connected with their guidance of the International. Contains, among other items, the First and Second Addresses to the General Council of the International Working Men's Association on the Franco-Prussian War. "Notes on the War" covers the fifty-nine items by Engels on the Franco-Prussian War and published in *The Pall Mall Gazette*. Other items include *The Civil War in France*, a basic work on scientific communism; and documents, including speeches by both Marx and Engels at the 1871 London conference of the International. Various editorial corrections have been included, such as spelling, titles, and geographical descriptions. Name, subject, quoted and mentioned literature, and periodical indexes.

MARX, KARL AND ENGELS, FREDERICK. *Karl Marx, Frederick Engels. Collected Works*. Volume 28. *Karl Marx: 1857-61*. Translated by ERNST WANGERMANN. New York: International; London: Lawrence and Wishart; Moscow: Progress in collaboration with the Institute of Marxism-Leninism, Moscow, 1986. Pp. xxvii, 590. \$15.00. ISBN 0-7178-0528-X. JEL 87-0692

The first of two volumes covering Marx's economic works written during 1857-61. Presents Marx's economic manuscripts, written during 1857-58, representing a rough version of *Capital* and economic writings that immediately preceded it. This volume includes: "Bastiat and Carey" and the "Introduction" and preliminary installments of the *Outlines of the Critique of Political Economy (Grundrisse)*, including chapters on money and capital. Editorial changes are included, such as completing sentences of the original manuscripts, grammar, and incidental insertions. Name, quoted and mentioned literature, periodical, and subject indexes.

MUN, THOMAS. *England's treasure by foreign trade*. Reprints of Economic Classics series. Fairfield, N.J.: Kelley, [1664] 1986. Pp. viii, 88. \$15.00.

JEL 87-0693

A treatise to the Right Honorable Thomas, Earl of Southampton, High Treasurer of England, as a discourse on the importance of foreign trade by a seventeenth-century London merchant. Discusses topics such as the qualities required by a perfect merchant of foreign trade; the importance of foreign trade as the means for augmenting a nation's wealth; how to increase exports and decrease imports; the futility of trade prohibitions; the errors of debasing currency; the role of merchants in foreign trade; the role of bankers; how revenues can be increased; and how to examine balances of trade. Concludes that foreign trade is the source of revenue for the King, supplies wants, enhances employment, and becomes the "terror of our enemies." Supports policies to increase trade and protect it from foreign injuries. No index.

PETTY, SIR WILLIAM. *The economic writings of Sir William Petty, together with the observations upon the bills of mortality more probably by Captain John Graunt*. Two volumes in one. Edited by CHARLES HENRY HULL. Reprints of Economic Classics series. Fairfield, N.J.: Kelley, [1699] 1986. Pp. xci, 700. \$57.50. ISBN 0-678-00029-8.

JEL 87-0695

Collection of Petty's economic and statistical writings. Texts are those of best published edition, with original paging indicated. Some selections represent original authentic manuscripts. Notes are confined mainly to economic or biographical aspects of the topics being discussed. A lengthy introduction covers Petty's life from the perspective of events and their bearing on it. Bibliography of the printed writings of Petty, including a supplement. List of books and manuscripts used. The editor is at Cornell University. Index.

ROTHBARD, MURRAY N., ed. *The review of Austrian economics*. Volume 1. Lexington, Mass. and Toronto: Heath, Lexington Books, 1987. Pp. xiii, 246. \$30.00. ISBN 0-669-12892-9. JEL 87-0696

The first volume of a new annual series promoting the development and extension of Austrian economics and the analysis of contemporary issues in the mainstream of economics from an Austrian perspective. Defines Austrian economics as the body of theory founded by Carl Menger in his 1871 *Principles of Economics*. Current volume contains nine essays, two review essays, and five book reviews. Essays include: the inflationary chaos ahead; why subjectivism is emphasized by Austrians; von Mises approach to wages, prices, and employment, and his concern about the later neo-Keynesianism; a critique of monetarist and Austrian doctrines on the utility and value of money; the cases of Schumpeter and Hansen breaking out of the Walrasian Box; a review of two forgotten articles by von Mises on the rationality of Socialist economic calculation; conceptual problems and implications of rent seeking; Austrian perspectives on Keynesian fiscal policy and the recovery of the 1930s; and GNP, PPR (private product remaining with producers), and the standard of living. Rothbard is the S.J. Hall Distinguished Professor of Economics at the University of Nevada, Las Vegas. No index.

RYAN, CHRISTOPHER K. *Harry Gunnison Brown: Economist*. A Westview Special Study. Boulder, Colo. and London: Westview Press, 1987. Pp. xv, 179. \$23.50, paper. ISBN 0-8133-7355-7.

JEL 87-0697

Presents Brown's (1880-1975) career highlighting his views and contributions to economics. Sets the scene of Brown's earlier years by surveying views on land as a factor of production. Presents Brown's views on capital and interest theories. Reviews Brown's attitudes on Keynesianism, business cycles, monetarism, macroeconomic policies, and the Depression. Covers Brown's view of taxes on goods, labor, capital and profits, and land value taxation. Examines Brown's writings on railroad rates and public utility pricing, and international trade and finance. Comments on his professional career as an educator and writer of textbooks. Concludes with Brown's reaction to Marxist, institutionalist, and Georgist claims in political economy and an evaluation of his position in the profession. Ryan is an instructor of economics at Coe and Cornell Colleges. Index.

WESS, SIDNEY. *Socialism in England*. Third edition. Aldershot, England and Brookfield, Vt.: Gower, [1890, 1993] 1987. Pp. lvi, 136. \$41.95. ISBN 0-566-05144-3. JEL 87-0698

Originally prepared at the request of the American Economic Association and first published in its series of monographs in 1889 to present an account of the development of Socialism. Begins with the development of the socialist ideal and the influence of Socialism in English public life. Describes the rise of the English socialist movement, the English socialist organizations and socialism in the churches and universities. Describes socialism in political economy, noting the evolution of socialist thought in economic literature. Concludes with a discussion of parliamentary and municipal socialism, giving numerous examples, and an examination of socialism in politics, reviewing demands of the English Socialist Party. Introduction to this edition by H. B. Acton (University of Edinburgh). Index.

See also: Book Numbers JEL 87-0668, 87-0762, 87-0788

040 ECONOMIC HISTORY

BEREND, IVAN T. *The crisis zone of Europe: An interpretation of East-Central European history in the first half of the twentieth century*. Translated by ADRIENNE MAKAY-CHAMBERS. Cambridge, New York and Melbourne: Cambridge University Press, 1986. Pp. viii, 106. \$24.95. ISBN 0-521-32089-5. JEL 87-0699

Translation of the Hungarian edition of the author's Ellen McArthur Lectures delivered at Cambridge University in the autumn of 1984. The lectures consider the consequences of the disparity in modernization between Western Europe and East-Central Europe in the twentieth century and especially in the interwar years. A central theme is how the Central and Eastern European countries' feeling of being pushed to the periphery prepared the ground for the revolt against liberalism, the free-market economy, parliamentary democracy, and the rationalism of the Western world and took the form of the Bolshevik revolution, national revolutions, and right-wing radicalism. Specific topics include: the failures of economic, social, and national development; ideological-cultural revolution; different modes of social revolt after World War I; and the arts in the period of crisis and fascism. Berend is at Karl Marx University of Economics, Budapest. Index.

BROADBERRY, S. N. *The British economy between the wars: A macroeconomic survey*. Oxford and New York: Blackwell, 1986. Pp. 180. \$39.95. ISBN 0-631-15001-3. JEL 87-0700

Re-examines the experience of interwar Britain using the standard aggregate demand/aggregate supply framework of macroeconomics. Analyzes

the traditional themes of interwar economic history, integrating more recent quantitative research on the subject. Considers consumption, investment, exports and imports, money demand, wages, prices, employment, unemployment, government policy with regard to the exchange rate, tariffs, monetary policy, fiscal policy, and supply side measures. The general conclusion is that the United Kingdom was stuck in a position of unemployment equilibrium and the government could do little about it because of a lack of both international and domestic cooperation. Broadberry is a lecturer in economics at University College, Cardiff. Index.

CROUCH, DAVID. *The Beaumont twins: The roots and branches of power in the twelfth century*. Cambridge Studies in Medieval Life and Thought, Fourth Series. Cambridge; New York and Melbourne: Cambridge University Press, 1986. Pp. xxi, 242. \$39.50. ISBN 0-521-30215-3.

JEL 87-0701

A study of the wealth and power of the Beaumont twins—Waleran of Meulan and Robert of Leicester. Part 1 is a biographical account covering the period 1118-68 and dealing with the reign of Henry I, Stephen of Blois, and the association of the twins with Plantagenets and Capetians. Part 2 analyzes the sources of the twins' wealth and power and the causes of their effectiveness and their ineffectiveness at exercising power. Covers the honorial baronage, administration, revenues, and the church and the wider world. Bibliography; index.

DAVIS, LANCE E. AND HUTTENBACK, ROBERT A. *Mammon and the pursuit of Empire: The political economy of British imperialism, 1860-1912*. With the assistance of SUSAN GRAY DAVIS. Cambridge; New York and Melbourne: Cambridge University Press, 1986. Pp. x, 394. \$47.50. ISBN 0-521-23611-8.

JEL 87-0702

Economic and political history that uses cliometric research to study the profitability of the British empire in the five decades preceding World War I and identify the major players in the imperial game. Focuses on the effect of the imperial system on Britain, the role profits may have played in motivating political policies designed to continue and strengthen imperial ties, the rate of return on Empire investment, the flows of capital that underwrote those returns, the costs of maintaining or expanding the Empire, the groups that paid the costs, and those that reaped the economic benefits. Major findings are that probably at no time, and certainly not after the 1870s, were Empire profits sufficient to underwrite British prosperity and that the middle class bore far more than its share of the imperial subsidy and did not share

equally in the benefits/profits which accrued largely to the upper class. Davis is Mary Stillman Harkness Professor of Social Sciences, California Institute of Technology. Huttenback is Chancellor and Professor of History, University of California, Santa Barbara. Bibliography; index.

DICKMAN, HOWARD. *Industrial democracy in America: Ideological origins of national labor relations policy*. La Salle, Ill.: Open Court, 1987. Pp. xiii, 445. Paper. ISBN 0-8126-9008-7. JEL 87-0703

Presents a history of the ideas leading to labor relations policies of the 1930s and the present. Explains and reexamines the reasons put forth in favor of unionism to explain why collective bargaining became favored over individual bargaining and to account for the unique structure—majority rule unionism—in the United States. Discusses topics such as the rise of individualistic economic policy, the movement from criminal conspiracy to free association, labor's lack of power under competition, syndicalism, industrial democracy and socialism, the beginning of collective bargaining theory, the economy of high wages as an approach to industrial democracy, pluralist models of industrial democratic reform, and the promise of American life. Concludes with a discussion of American industrial democracy from 1933 to 1947, surveying the precedents for the Wagner Act, the debate over provisions of that law, and the Supreme Court interpretations of exclusive representation. Index.

ERICKSON, CHARLOTTE. *British industrialists: Steel and hosiery, 1850-1950*. Reprint. Aldershot, England and Brookfield, Vt.: Gower in association with the London School of Economics and Political Science, [1959] 1986. Pp. xxi, 276. \$54.00. ISBN 0-566-05141-9. JEL 87-0704

A historical study of the changes in the social origins and career patterns of approximately 631 men who headed firms in the British steel and hosiery industries for nearly a century (1865-1953). Inquiry for steel covers firms in England, Scotland, and Wales; whereas the Nottingham area was the focus for hosiery. Criteria for selection of personalities included active, managing partners, chairmen of limited companies, vice and deputy chairmen of limited companies, managing directors of limited companies, other executive directors, and general managers of large partnerships or sole proprietorships. Examines the social origins of the industries' leaders, referring to fathers' occupation, place of birth, education, marriage, peerages, age and length of service, and experiences. Also discusses the innovators and introducers of new techniques in these industries. Also analyzes the public company and its social origins and career patterns.

Erickson is Lecturer in Economics and History at the London School of Economics and Political Science. Names, companies, and general indexes.

- EVANS, RICHARD J. AND GEARY, DICK, eds. *The German unemployed: Experiences and consequences of mass unemployment from the Weimar Republic to the Third Reich*. New York: St. Martin's Press, 1987. Pp. xviii, 314. \$39.00. ISBN 0-312-00098-7. JEL 87-0705

Eleven original essays by British and German historians examine unemployment in the Weimar Republic. Papers address issues such as which groups were affected most severely, the effectiveness of welfare schemes, the impact on fueling social and political unrest, the role of unemployment in the collapse of the Republic and the rise of Hitler, and the attempt of the Nazis to solve the problem. The introduction presents a general survey of unemployment during the Weimar period, focusing on fluctuations in its rate, the groups affected, and the government's response, emphasizing social and political consequences. Subsequent papers address unemployment and demobilization after World War I; welfare and social insurance, 1918-27; unemployment insurance and compulsory labor, 1927-33; working women; youth unemployment and the state at the end of the Republic; social dislocation and political mobilization, 1929-33; unemployment and working class solidarity, 1929-33; and the Third Reich work-creation schemes. Evans is Professor of European History at the University of East Anglia. Geary is Senior Lecturer and Head of German Studies at the University of Lancaster. Index.

- GLYNN, SEAN AND BOOTH, ALAN, eds. *The road to full employment*. London; Winchester and North Sydney: Allen and Unwin, 1987. Pp. ix, 214. \$29.95, cloth; \$14.95, paper. ISBN 0-04-330361-7, pbk. JEL 87-0706

Thirteen essays explore the causes and consequences of the British interwar unemployment problem so as to shed light on contemporary problems. Seven essays in part 1 analyze the interwar unemployment problem in a multi-disciplinary manner, using economic, political, and social approaches. Six essays in Part 2 deal with policy issues, including Keynes's influence in the interwar years; treasury attitudes toward unemployment; the lack of emergence of a coherent industrial policy; the attitude of the Labour Party; reasons for policy failures; and the emergence of the government commitment to full employment during World War II. The contributors are mainly economists. Glynn is Senior Lecturer in Economic and Social History at the University of Kent. Booth is

Lecturer in Economic and Social History at the University of Sheffield. Bibliography; index.

- GOODHART, C. A. E. *The business of banking, 1891-1914*. Reprint. Aldershot, England and Brookfield, Vt.: Gower in association with the London School of Economics and Political Science, [1972] 1986. Pp. 628. \$63.00. ISBN 0-566-05142-7.

JEL 87-0707

Provides an analysis and description of the business of banking among the London joint stock banks, 1891-1914. Statistical records of banking behavior are reviewed in section 1, emphasizing three main sources of data—the annual and semi-annual balance sheets published by the banks, the monthly reports of the London joint stock banks, and the unpublished records of the banks. Also presents a critique of the accuracy of these data. Section 2 presents a description of the business of banking during the same period. Focuses on how the large London joint stock banks functioned within the context of the given structural setting, discussing aspects such as portfolio practices, determinants of the volume of deposits and liabilities, and changes in the volume of particular assets. The last section discusses the banking system and the gold standard, concluding that the classical analysis, which attributes a monetary explanation to the trade cycle and to the international adjustment, is not substantiated in the case of Great Britain. Goodhart has been a lecturer at Cambridge and the London School of Economics. Bibliography; bank and general indexes.

- HACKEN, RICHARD D., compiler. *Central European economic history from Waterloo to OPEC, 1815-1975: A bibliography*. Bibliographies and Indexes in Economics and Economic History series, no. 6. New York and London: Greenwood Press, 1987. Pp. xviii, 270. \$45.00. ISBN 0-313-25460-5.

JEL 87-0708

A bibliographic guide to the economic history of Central Europe. Restricted mainly to the German-speaking areas of Central Europe, but selectively covers mixed-language areas like Hungary, Bohemia, and Silesia. Contains more than 5,300 entries divided into five sections detailing the history of economic conditions, agriculture, industry, business and commerce, and finance. Each section is further subdivided geographically and chronologically. Hacken is European Studies bibliographer at Brigham Young University. Author index.

- HANDLIN, OSCAR AND HANDLIN, MARY FLUG. *Commonwealth: A study of the role of government in the American economy: Massachusetts, 1774-1861*. Reprint of the revised edition. Cambridge, Mass.

and London: Harvard University Press, Belknap Press, [1947] 1969. Pp. xvii, 314. \$20.00, cloth; \$8.95, paper. ISBN 0-674-14691-3, pbk.

JEL 87-0709

Concerned with the evolving picture of the relations between the system of government and production and the resulting institutional characteristics. Begins historical review with the inception of the state. Views the Revolution as an opportunity for the people to reconsider the nature of government and formulate a new set of assumptions on which they wished state government and the economy to rest. Examines the origins of the cooperation and the role of government before 1820, as well as up to the Civil War. Discusses the foundations of political power and its consolidation, behavior to encourage industry and commerce, the Commonwealth and corporations, the law of private rights, acquiescence as state policy, social disorganization and economic policy, liberal humanitarianism, and the reform state. The 1969 edition was thoroughly revised. Documentary appendices; index.

JONES, GEOFFREY. *Banking and empire in Iran: The history of the British Bank of the Middle East. Volume 1. Research by FRANCES BOSTOCK, GRIGORI GERENSTEIN, AND JUDITH NICHOL. Hongkong Bank Group History Series. Cambridge; New York and Melbourne: Cambridge University Press, 1986. Pp. xxiv, 418. \$75.00. ISBN 0-521-32322-3.*

JEL 87-0710

Business history of the British Bank of the Middle East and its role in both British overseas banking and banking in the Middle East. Volume 1 recounts the history of the Bank from its foundation as the Imperial Bank of Persia in 1889 through 1952, when its present name was adopted and it left its primary area of business, i.e., Iran. Discusses its activities and bankers from its beginnings through the two world wars up to the severance of British diplomatic relations with Iran in 1952. Sources include the Bank's archives as well as interviews with current and former members of the Bank's staff. Jones is Lecturer in Economic History, London School of Economics. Select Bibliography; index.

KUNZ, ANDREAS. *Civil servants and the politics of inflation in Germany, 1914-1924. Veröffentlichungen der Historischen Kommission zu Berlin, Band 66. Beiträge zu Inflation und Wiederaufbau in Deutschland und Europa 1914-1924, Band 7. Berlin and New York: de Gruyter, 1986. Pp. xix, 427. \$54.50. ISBN 0-30925-222-2.*

JEL 87-0711

Argues that the economic and social impact of inflation from 1914-24 facilitated the entry of civil

servants into a modern type of interest politics which, in turn, increased the influence that civil service associations were able to exert on the conduct of economic and social policies in the early 1920s. Examines and documents the social history of German civil servants as a social group, during World War I and the postwar period of reconstruction that included the revolution of 1918-19 and the founding years of the Weimar Republic. The epilogue discusses the importance of these developments for Weimar democracy, the Nazi years, and collective bargaining and negotiating patterns in modern day German labor relations and policies. Kunz is with the Institute for Economic and Social History, Free University of Berlin. Bibliography; subjects, geographic names, and persons indexes.

LANGTON, JOHN AND MORRIS, R. J., eds. *Atlas of industrializing Britain, 1780-1914. London and New York: Methuen, 1986. Pp. xxx, 246. \$27.00, cloth; \$14.95, paper. ISBN 0-416-30300-5, pbk.*

JEL 87-0712

An atlas, including thirty-one descriptions and almost 400 maps tracing the economic, social, and political development of England between 1780 and 1914. Reviews trends and changes in the physical environment, population, regional structure, agriculture, rural settlements, wages, power, transport, trade, different industries that played important roles in England's economic development, services, wealth, poverty, urbanization, labor protest and unionization, sport, languages, popular institutions, education, religion, and the electoral system. The contributors are mainly economic historians, historians, and geographers. Langton is Fellow in Geography, St. John's College, University of Oxford. Morris is a member of the Department of Economic and Social History at the University of Edinburgh. Bibliography; no index.

[LASLETT, PETER] *The world we have gained: Histories of population and social structure. Essays presented to Peter Laslett on his seventieth birthday. Edited by LLOYD BONFIELD, RICHARD M. SMITH, AND KEITH WRIGHTSON. Oxford and New York: Blackwell, 1986. Pp. x, 421. \$60.00. ISBN 0-631-13871-4.*

JEL 87-0713

Fifteen essays written by colleagues of Peter Laslett in recognition of his influence on social history and, in particular, his emphasis on connections between the past and present in national historiographies and historical sociology. Topics include: social structure in early modern and late nineteenth-century England; regional and local variations in European illegitimacy, family structure fecundity and the link between marriage and inheritance;

maternal mortality in preindustrial England and Western Europe; the nature of change in marriage, courtship, occupational structures in late medieval and early modern times; the social order of early modern England; welfare and the historians; and the genesis of experimental history. The contributors are mainly historians. Until he retired, Laslett was Reader in Politics and the History of Social Structure at Cambridge University. Index.

LESHY, JOHN D. *The mining law: A study in perpetual motion*. Washington, D.C.: Resources for the Future; distributed by Johns Hopkins University Press, Baltimore and London, 1987. Pp. xvi, 521. ISBN 0-915707-26-8. JEL 87-0714

Study of the origin, implementation, evolution, and future of the Mining Law of 1872. Notes the Law's longevity and how the original version differs from the modern mineral industry practices and contemporary land practices. Presents a history of the West, with mining law as its focus, including actors such as judges, governors, politicians, adventurers, and hustlers. Examines why the 114-year-old Law has survived. Argues that the Law has been reformed numerous times over the years by legislative amendment, executive implementation, and judicial interpretation. Also finds that various pressures for reform have tended to cancel out each other. Finds that efficient mineral development and environmental quality are not served well by the continued existence of the Law. Discusses origins of the Law, the Law itself, the decline of free access, the Law in operation, evolution of the law of discovery, current policy and application of the law of discovery, problems of scale, activities to protect the environment, problems of the wilderness, role of the executive and the courts in administering the Law, reforming the Law, leasing alternative, and prospects for change. Leshy is Professor of Law at Arizona State University College of Law. Name and subject indexes.

MACKENNEY, RICHARD. *Traders and traders: The world of the guilds in Venice and Europe, c. 1250-c.1650*. Totowa, N.J.: Barnes & Noble Books, 1987. Pp. xvi, 299. \$29.95. ISBN 0-389-20701-2. JEL 87-0715

Examines guilds as the component units of medieval polity. Studies guilds over a period of four centuries in an attempt to reassess the importance of a generally neglected institution, especially in the context of its influence on the city of Venice. Revises accepted views on guilds of medieval times and early modern Europe. Each chapter contains a comparative essay which offers general ideas about the uniqueness of the Venetian guilds and the role of guilds in urban European life from the

13th to the 17th centuries. Uses cities such as Florence, London, Lyon, Antwerp, and Amsterdam for comparisons. Presents a broad perspective of guilds—their relationship to medieval policy, Christian brotherhood, enterprise, festive spirit and public life, the Counter-Reformation, and war. Mackenney is Lecturer in History at the University of Edinburgh. Bibliography; index.

[PENROSE, ERNEST F.] *Japan and world depression: Then and now. Essays in memory of E. F. Penrose*. Edited by RONALD DORE AND RADHA SINHA. With assistance from MARI SAKO. New York: St. Martin's Press, 1987. Pp. xxiv, 208. \$29.95. ISBN 0-312-44054-5. JEL 87-0716

Eleven essays honoring Ernest Penrose (1895-1984), who was a professor both in Japan and the United States and served both U.S. and international agencies. Selections compare the Japan of fifty years ago and today. The opening essay, "Memoirs of Japan, 1925-30," by Ernest Penrose reflects on Penrose's first teaching position at Nagoya College of Commerce. Other essays discuss depressions and protectionism, comparing the 1930s and 1980s; the major changes in the Japanese economy during the interwar period; Japanese public opinion and policies on defense and security; Britain's view of the Japanese economy in the 1930s; Soviet-Japanese relations; Japan's experience in China; and Japan's relationship with Thailand. Dore is Assistant Director of the Technical Change Centre in London and Visiting Professor at Imperial College, University of London. Sinha is Professor of Political Economy at the University of Glasgow. Name and subject indexes.

WALKER, DAVID W. *Kinship, business, and politics: The Martínez del Río family in Mexico, 1824-1867*. Institute of Latin American Studies, Latin American Monographs series, no. 70. Austin: University of Texas Press, 1986. Pp. x, 278. \$27.50. ISBN 0-292-74308-4. JEL 87-0717

Historical study of the trials and tribulations in the realms of business and politics of an important family in early national Mexico. Uses primary source materials, including private correspondence and business records of the family, public notary documents, transcripts of judicial proceedings, and archives of Mexico's Ministry of Foreign Relations and the British Foreign Office. Uses the family history to analyze problems relating to the development of the newly independent state and society in early nineteenth century Mexico. Finds that the processes of socioeconomic formation in Mexico differed from those in Western Europe and the United States, so that entrepreneurial activity had different implications for economic development

and class formation. Traces family life in Mexico, 1792-1860; the Martínez del Río family, 1830-60; and commerce, banking, textiles, and the tobacco debt bonds. Presents a historical perspective of kinship, business, and politics. Concludes with an epilogue on the Martínez del Río family, 1864-1984, indicating that by 1940, the family's economic resources were nearly exhausted. Walker is a visiting lecturer at Harvard University. Bibliography; index.

See also: Book Numbers JEL 87-0709, 87-0721, 87-0727, 87-0747, 87-0926

050 ECONOMIC SYSTEMS

BUICK, ADAM AND CRUMP, JOHN. *State capitalism: The wages system under new management*. New York: St. Martin's Press, 1986. Pp. ix, 165. \$29.95. ISBN 0-312-75619-4. JEL 87-0718

Argues that capitalism is a worldwide system of commodity production based on wage labor and that the level of production throughout the world is determined by the need of productive enterprises to compete on the world market. Contends that it is impossible for capitalism and socialism to coexist. The substitution of state ownership for private ownership does not mean the abolishment of capitalism, but only that part of the capital has been incarnated by the state; therefore, even Russia and China are state capitalist rather than socialist countries. Examines state capitalism in its Western form of selective nationalization, particularly in Britain. Traces the origins of Russian state capitalism to the 1917 revolution and to the ideology of Vladimir Lenin. Presents an alternative to capitalism—a classless world society without exchange, where all goods and services would be produced for use only and would be distributed free directly to the people so that each person's needs are fully satisfied, with capital and land belonging to the people. Buick is a civil servant with the Commission of European Communities in Luxemburg. Crump is Lecturer in Politics at the University of York. Bibliography; index.

COMISSO, ELLEN AND TYSON, LAURA D'ANDREA, eds. *Power, purpose, and collective choice: Economic strategy in socialist states*. Cornell Studies in Political Economy series. Ithaca and London: Cornell University Press, 1986. Pp. 422. \$39.50, cloth; \$14.95, paper. ISBN 0-8014-9435-4, pbk. JEL 87-0719

Fourteen papers, most of which first appeared in the Spring 1986 issue of the journal *International Organization* (Vol. 40, no. 2), analyze the foreign economic strategies of the European members

(particularly Romania, Hungary, East Germany, and Poland) of the CMEA. Focuses on the connection between economic policy choices and the way in which political elites that make the choices stay in power. Specific topics include: state structures, political processes, and collective choice in CMEA states; the debt crisis and adjustment responses in Eastern Europe; the political economy of the CMEA; the historical evolution of Eastern Europe; economic strategy of specific CMEA states; and comparison of adjustment responses to international economic disturbances between CMEA members and Yugoslavia and East Asian, Latin American, and Mediterranean Basin NICs. The concluding paper compares state structures and political processes within and outside the CMEA. The contributors are mainly economists and political scientists. Comisso is Associate Professor of Political Science, University of California, San Diego. Tyson is Associate Professor of Economics, University of California, Berkeley. No index.

DOWDY, EDWIN, ed. *Marxist policies today: In socialist and capitalist countries*. St. Lucia, Queensland; London and New York: University of Queensland Press, 1986. Pp. viii, 234. \$34.50. ISBN 0-7022-1927-4. JEL 87-0720

Ten essays by contributors from Australia, Europe, and North America focus on the usefulness of Marxist ideas and methods in dealing with matters of practical policy. The majority of the papers were given at a 1983 seminar at the University of Queensland marking the hundredth anniversary of the death of Karl Marx. Essays discuss Marxist analysis of capitalism in Australia, the legacy of Marx in the West German trade union movement, policy formation and Marxist reformism, the rise and fall of Marxist ideology in communist countries, Chinese Marxist thinking since 1978, Marxian law of value under Socialism, Marxism and education, Marxism and feminism, and class, hegemony, and the state in recent Marxist approaches to the sociology of sport. Approach is multidisciplinary. Dowdy is Associate Professor of Sociology at the University of Queensland. Index.

ENGLIS, KAREL. *An essay on economic systems: A teleological approach*. Translated by Ivo MORAVCIK. East European Monographs, no. CCI. Boulder, Colo.: East European Monographs and Czechoslovak Society of Arts and Sciences; distributed by Columbia University Press, New York, [1946] 1986. Pp. xxviii, 153. \$20.00. ISBN 0-88033-095-3. JEL 87-0721

Translation from the Czechoslovak of Englis's *Economic Systems* (1946) with a new introduction. Presents a theoretical analysis of the relationship

between socio-political frameworks and economic doctrines, and their implications for economic policy and specific economic developments. Concerned with a specific stage of economic development in which a modern political state has attained maturity and assumed the function of regulating the nation's economic problems. Begins with a discussion of the polarity of economic systems—spanning the range from individualism to solidarism. Describes the capitalist and cooperative systems and the solidarist economy. Discusses elements of economic systems, mixed systems, economic systems and ethics, the moral nature of mankind, legal order, theory of the state, controlled economies, transformation of capitalism, economic systems and international trade, the formal political structure of the state, planned economics and socialism, and international solidarism. Finds a role for both individualism and solidarism, the former to stimulate progress through competition and the latter to implement the former to eliminate poverty and provide for a balanced development. The late Karel Englis was Professor of Economics and University Rector at Charles University in Prague. Bibliography of Englis's writings. No index.

GOODALL, FRANCIS. *A bibliography of British business histories*. With an introduction by GEOFFREY JONES ET AL. Aldershot, England; Brookfield, Vt.; Hong Kong and Sydney: Gower, 1987. Pp. 638. \$95.00. ISBN 0-566-05307-1. JEL 87-0722

An introduction describing business history, its nature, new directions, and methodology is followed by a user's guide, a standard industrial classification scheme, bibliographies, libraries and abbreviations. Major portion of volume consists of an author index followed by a company index and an industrial classification index. The bibliography contains a range of materials relating to U.K. companies of the past and current centuries, including some based in England but operating mainly overseas, and foreign firms based in Britain. The author index is arranged alphabetically and includes author's name, title citation, comment about contents such as pages and illustrations, SIC classification, firm, and source library. Author index also includes cross reference SICs. The company index lists companies by name and the SIC index brings together all companies in the same industry. Goodall was associated with the London School of Economics at the time this volume was prepared.

HAUPT, GEORGES. *Aspects of international socialism, 1871-1914. Essays by Georges Haupt*. Translated by PETER FAWCETT. With a preface by ERIC HOSBRAWN. Studies in Modern Capitalism series. Cambridge, New York and Melbourne: Cambridge

University Press; Paris: Éditions de la Maison des Science de l'Homme, 1986. Pp. xvii, 181. \$37.50. ISBN 0-521-26259-3. JEL 87-0723

Translation of six papers by the historian Georges Haupt (1928-78). Originally published between 1966 and 1978, the papers examine various aspects of the history of European socialism (especially during the period of the Second International) and revolutionary ideology. Major themes are: the groups of labor and socialist party leaders and activists and their ideas; the structure and development of socialist ideology and its evolution in theoretical and political debate; and the interaction between theory, doctrine, and program as historical reality changed. Specific topics are: from Marx to Marxism; the commune as symbol and example; the role and influence of German social democracy in Southeast Europe; international leading groups in the working class movement; Lenin, the Bolsheviks, and the Second International; and Lenin's views on war and revolution. Index.

HIBBS, DOUGLAS A., JR. *The political economy of industrial democracies*. Cambridge, Mass. and London: Harvard University Press, 1987. Pp. viii, 327. \$37.50. ISBN 0-674-68580-6. JEL 87-0724

Eleven articles published between 1976 and 1982 examine the political economy of industrial democracies. Part 1 deals with industrial conflict, its fluctuations, trends, and consequences, focusing on strike activity in capitalist democracies. Part 2 analyzes politics and economics in the United States and the behavior of political authorities in response to the economic demands to reduce inflation. The last part deals with comparative and European politics and economics, citing examples from the United States, United Kingdom, West Germany, France, and Sweden. These studies attempt to assess voter sensitivity to real economic performance in relation to their sensitivity to nominal economic performance. Hibbs is at the Nationalekonomiska Institutionen, Göteborg University, Sweden. Index.

IOFFE, OLIMPIAD S. AND JANIS, MARK W., eds. *Soviet law and economy*. University of Leyden, Documentation Office for East European Law, Law in Eastern Europe series, no. 32. Norwell, Mass.; Dordrecht and Lancaster: Kluwer Academic, Martinus Nijhoff, 1986. Pp. xii, 335. \$74.00. ISBN 90-247-3265-4. JEL 87-0725

Fourteen papers examine Soviet law and economy, pinpointing controversy and disagreement. Addresses questions such as whether recent changes in the legal regulation of the Soviet economy signal a move toward economic decentraliza-

tion or are merely cosmetic modifications. The role of law in the Soviet Union, and the effect of Marxist-Lenin ideology on contemporary Soviet law and economy are also addressed. Papers are divided into three parts covering: (1) centralized planning, the subordinate role of economic contracts, the separation of production from ownership, and the possibilities and limits of Soviet economic reform; (2) labor law, women in the Soviet economy, personal property and its legal implications, legal regulations regarding the dissemination of scientific and technical information, copyrights and trademarks, crime, and comrades' courts and labor discipline; and (3) Soviet theory of international law, economic, political, and legal aspects of Soviet foreign trade, COMECON and economic law, Polish economic law, and Soviet law and foreign scholarship. Ioffe is Professor of Comparative Law, and Janis is Professor of International Law, both at the University of Connecticut School of Law. Index.

MANNAN, MUHAMMAD ABDUL. *Islamic Economics: Theory and practice (Foundations of Islamic Economics)*. Revised edition. Sevenoaks, Kent, England: Hodder and Stoughton for the Islamic Academy, Cambridge, England; distributed by Westview Press, Boulder, Colo., [1970] 1986. Pp. xvi, 425. \$26.50, paper. ISBN 0-8133-0479-2.

JEL 87-0726

Revised and updated edition of a book that has been reprinted over twelve times since 1970. Presents Islamic economic values within the context of contemporary economic analysis with special reference to the economic problems of Pakistan in light of its commitment to welfare state concepts based on Islamic ideology. Assumes no prior knowledge of either economics or Islamic thought. Changes in the new edition include the addition of a new chapter that critiques the operations of the Islamic Development Bank and other banks along with policy suggestions, an additional introductory chapter dealing with pertinent methodological issues, and end-of-chapter lists for further reading. Examines Islamic Economic Laws, consumption and consumer behavior, factors of production and the concept of ownership, problems and issues in factors of production, distribution of income and wealth, price theory, interest-free banking in Islam, Islamic banks and investment companies, consumption and nonconsumption loans, fiscal policy and budgeting, public finance, trade and commerce, cooperative insurance, Islamic and other economic systems, social order, and planning and development. Mannan is Professor, Islamic Research and Training Institute, Islamic Development Bank, Jeddah, Saudi Arabia. Index.

NOLAN, PETER AND PAINE, SUZANNE, eds. *Rethinking socialist economics: A new agenda for Britain*. New York: St. Martin's Press, 1986. Pp. viii, 373. \$37.50. ISBN 0-312-67806-1. JEL 87-0727

Twenty-one articles presented at a conference at Jesus College, Cambridge University, and organized by the *Cambridge Journal of Economics* entitled "Towards New Foundations for Socialist Policies in Britain." Papers present recent developments in critical analysis of socialist political-economic principles and policies with the common conviction that it is possible to construct a participatory democratic society with efficiently working economic institutions, which is based neither on the unfettered free market nor on comprehensive state administration but on market-socialist principles. Topics discussed are: freedom and the state (3 papers); planning and markets (2 papers); the international setting (3 papers); macroeconomic policy (2 papers); industrial, financial, and regional policy (3 papers); the structure of work and welfare (4 papers); income distribution, wages, and policies (3 papers); and what a socialist planned economy in Britain would be like (postscript). The contributors are mainly economists. Nolan is Lecturer, Faculty of Economics and Politics, University of Cambridge and Fellow of Jesus College, Cambridge. The late Suzanne Paine was Lecturer, Faculty of Economics and Politics, University of Cambridge and Fellow of Clare College. No index.

SENDER, JOHN AND SMITH, SHEILA. *The development of capitalism in Africa*. London and New York: Methuen, 1986. Pp. xi, 177. \$33.00, cloth; \$16.95, paper. ISBN 0-416-37740-8, pbk. JEL 87-0728

Focuses on the identification and analysis of social and economic change in sub-Saharan Africa. Main attention is given to internal changes, particularly changes in social relations of production. Analyzes the impact of trade with advanced capitalist countries during the colonial period on the growth of the domestic market in Africa. Examines the process whereby a free market for wage labor developed in colonial Africa. Discusses the links between state intervention, successful import-substituting industrialization and export growth, and the potential and positive effects of state intervention in post-colonial Africa. Provides an account of the reasons for the economic stagnation and regression in certain African countries. Generalizations are based on a review of data and research for Ethiopia, Ghana, Ivory Coast, Kenya, Malawi, Mozambique, Nigeria, Senegal, Tanzania, Zambia, and Zimbabwe. Sender is Assistant Director of Development Studies, University of Cambridge. Smith is Lecturer in Economics at the University of Sussex. Bibliography; index.

See also: Book Numbers JEL 87-0683, 87-0701, 87-0719, 87-0764, 87-0780, 87-0792

100 Economic Growth; Development; Planning; Fluctuations

110 ECONOMIC GROWTH; DEVELOPMENT; AND PLANNING THEORY AND POLICY

BOSERUP, ESTER. *Woman's role in economic development*. Second edition. Aldershot, England and Brookfield, Vt.: Gower in association with the London School of Economics and Political Science, [1970] 1986. Pp. 283. \$41.95. ISBN 0-566-05139-7. JEL 87-0729

Examines the difference in work conditions between the sexes in countries that are in the process of economic development. Second edition contains a new preface. [See JEL no. 71-0382 for annotation of the first edition. For review see JEL, Volume 10, issue no. 2 (June 1972) pp. 463-4.] Argues that, during this process, the need arises for better education and training not only of men, but also of women, if the society is to function efficiently. Considers differences in the village (male and female farming systems, the economics of polygamy, loss of status under European rule, and the casual worker); in the town (market trade and services, industry, education, and women in the urban hierarchy); and from village to town (lure of the towns, urban job opportunities for women, the fear of unemployment, and the design of female education). Contains statistical tables on the occupational distribution of the female labor force in the 1950s and 1960s for various countries in Sub-Saharan Africa, the region of Arab influence, South and East Asia, and Latin America. Author and subject indexes.

DENOON, DAVID B. H., ed. *Constraints on strategy: The economics of Western security*. Washington, D.C.; London; Beijing and Toronto: Pergamon-Brassey's, 1986. Pp. x, 284. ISBN 0-06-033139-4. JEL 87-0730

Six essays review American alliances from the perspective of defense policy and strategy. Papers analyze the relationship between defense policy and the economics of key Western alliance partners: the United States, United Kingdom, France, the Federal Republic of Germany, Spain, Portugal, Greece, Turkey, Japan, and South Korea. Addresses three broad issues: what will be the likely economic performance for the United States and its principal allies in the next three to five years? What useful generalizations can be made about the relationship between economic performance

and defense spending in these countries? How will economic factors shape defense options during the current decade? Topics discussed include the nature of the U.S. dilemma, military debates, alliance problems, the varying approaches of different alliance members, the impact of increasing defense expenditures on the U.S. economy, defense burdens for the European allies (both Northern and Southern tiers), and the situation in Japan and South Korea. Concluding essay by Denoon discusses economic constraints and U.S. defense policy in the 1980s. The contributors, besides the editor, are Kevin Forbes, David Galenson, Walter Galenson, George Korsun, Martin McGuire, James Murdoch, M.I. Nadiri, and Todd Sandler. Denoon is an Associate Professor of Politics and Economics at New York University. Bibliography; index.

FALTAS, S. *Arms markets and armament policy: The changing structure of naval industries in Western Europe*. Studies in Industrial Organization series, vol. 7. Norwell, Mass.; Dordrecht and Lancaster: Kluwer Academic, Martinus Nijhoff, 1986. Pp. 417 \$69.00. ISBN 90-247-3406-1. JEL 87-0731

An investigation of naval industries (shipbuilders and warship equipment makers) in NATO Europe between 1960 and 1980. Traces the development of this part of the defense industry in the region, the markets on which it relies, trends toward expansion in developing countries, its industrial organization, and the effects of technological change on the industry. Chapters focus on changing navies and naval technology, the internationalization of the warship building and warship equipment industries, concentration and specialization in naval industries and rationalization in European NATO armaments. Concludes that the naval industries are rapidly orienting themselves toward the world market. Study was submitted and approved as a doctoral dissertation at the Free University, Amsterdam. Faltas is with the Technische Hogeschool Eindhoven, the Netherlands. No index.

GHARAJEDAGHI, JAMSHID. *A prologue to national development planning*. In collaboration with RUSSELL L. ACKOFF. Contributions in Economics and Economic History series, no. 70. New York and London: Greenwood Press, 1986. Pp. xiii, 210. \$35.00. ISBN 0-313-25285-8. JEL 87-0732

Focuses on philosophical, methodological, and conceptual aspects of national development planning; advocates interactive planning. Discusses deficiencies that arise from misconceptions of nation, development, and planning. Presents the interactive planning framework, phases, and process, and considers social learning and development, the role

of government, and the design of participative systems. Identifies obstructions to development and shows how they can be converted into opportunities. Examines the intersection of each of three primary obstructions to development (scarcity, maldistribution, and insecurity) with each of five ideal pursuits deemed necessary for development (truth, plenty, good, beauty, and power) and the obstructions produced at each intersection. The concluding chapter proposes that the planner's function is to inspire the planning of change. Gharaiedaghi is President of Interact, The Institute for Interactive Management in Philadelphia. Ackoff is Chairman of the Board of Interact and Emeritus Professor of Management Sciences, University of Pennsylvania. Bibliography; index.

GHOSH, RANEN. *Quantitative economic models for developing countries*. Calcutta: Ranitra Books, 1986. Pp. viii, 224. \$8.00, paper. JEL 87-0733

Twenty papers that represent author's research over the past ten years, some of which have been published previously. Focus is on understanding the economic phenomena of developing countries. Essays are mainly quantitative and econometric in nature, written from the perspective that economic phenomena should dictate the choice of analytical tools. Makes special reference to the economies of India, Ghana, Nigeria, and Zambia. Specific topics include the agricultural production function, the relationship between concepts and quantification, techniques of analyzing economic variable data, inflation and economic growth, qualitative variables in quantitative economic models, *modus operandi* of a developing economy, economic development with controlled inflation, impacts of the first three Five Year Plans on the structure of the Indian economy, input-output analysis and economic development plans, Gandian ideas as panacea for the unemployment problem, economic developmental programs and the public sector, the nature of the investment variable, a dummy variables model for analyzing seasonality of economic variables, and Bayesian econometrics. The author is an econometrician, currently engaged in research on Development Economics. Index.

KALECKI, MICHAŁ. *Selected essays on economic planning*. Edited, translated, and introduced by JAN TOPOROWSKI. Cambridge; New York and Melbourne: Cambridge University Press, 1986. Pp. vi, 123. \$34.50. ISBN 0-521-30837-2.

JEL 87-0734

Eleven translated and edited essays on economic planning written and previously published (mostly in Polish journals) by Michał Kalecki between 1940

and the 1960s. Topics of essays are: the essentials for democratic planning, workers' councils and central planning, the vertically integrated firm as an element in the new economic model, an outline of a new system of incentives and directives, central price determination as an essential feature of a socialist economy, labor productivity, the basic principles of long-term planning, problems in the theory of growth of a socialist economy, the influence of the construction period on the relationship between investment and national income, and the coefficient of capital tied up in construction. The editor is an economist at Standard Chartered Bank, London. Index.

KITCHEN, RICHARD L. *Finance for the developing countries*. Wiley Series on Public Administration in Developing Countries. Chichester; New York; Toronto and Singapore: Wiley, 1986. Pp. xvii, 365. \$57.00. ISBN 0-471-90945-9. JEL 87-0735

Presents basic concepts and practices of development financing for developing countries at both the macro and micro levels; focuses on financial instruments as well as the institutions and markets that mobilize them. Considers: basic principles, financial processes, and mechanisms of development finance; capital market theory and developing countries; the impact of the domestic financial system on economic development; mobilization of domestic finance through the actions of government, formal and informal financial institutions, and securities markets; external financing with reference to public sector flows, export credits, private sector flows, debt, adjustment, and the IMF; the financing of capital investments; and recent proposals to improve the quantity and quality of development financing. Kitchen is a lecturer at the Project Planning Centre for Developing Countries at the University of Bradford. Author and subject indexes.

SIEPHERD, WILLIAM G. *The ultimate deterrent: Foundations of US-USSR security under stable competition*. In association with THEODORA B. SIEPHERD. New York and London: Greenwood Press, Praeger, 1986. Pp. x, 137. \$29.95. ISBN 0-275-92368-1. JEL 87-0736

Argues that the United States and Union of Soviet Socialist Republics are inherently secure from conquest by the other, regardless of any military defense of their homelands, because neither can gain by taking over and exploiting the other and the process of global competition between the two countries is a stable one. Further arguments are that the threat of world domination by either country is imaginary and that weapons capable of mutual destruction contribute nothing to the already

existing freedom from conquest and plunder. Discusses the logic of inherent superpower security, conditions that make the U.S. inherently secure, counterarguments, stability of superpower competition as the basis for coexistence, historical cases supporting the argument, the main benefits and costs of conquest, use of the national wealth for military spending and residual interests, and lessons for both superpowers. William G. Shepherd is Professor of Economics, University of Massachusetts, Amherst. Theodora B. Shepherd is a research specialist in economic history. Bibliography; index.

[STREETEN, PAUL] *Theory and reality in development: Essays in honour of Paul Streeten*. Edited by SANJAYA LALL AND FRANCES STEWART. New York: St. Martin's Press, 1986. Pp. xii, 291. \$29.95. ISBN 0-312-79726-5. JEL 87-0737

Fourteen papers written by former students or colleagues of Paul Streeten, who is currently Director of the World Development Institute at Boston University, in honor of his many contributions to development economics, his role in the basic needs movement in development economics, and his emphasis on the importance of understanding economic behavior in its social and political context. Topics include: Adam Smith's treatment of prudence, stagflation and the third world, a proposal for an IMF debt refinancing subsidiary, alternative approaches to North-South negotiations, a welfare-theoretic analysis of extending free trade to include international investment, the third world and comparative advantage in trade in services, the early 1980s in Latin America, communal land tenure systems and their role in rural development, world food security, and East-South trade. Many of the contributors are economists. Lall is Senior Research Officer, Institute of Economics and Statistics and a Fellow of Green College, Oxford University. Stewart is Senior Research Officer, Institute of Commonwealth Studies and Fellow of Somerville College, Oxford University. Index.

WEIDA, WILLIAM J. AND GERTCHER, FRANK L. *The political economy of national defense*. Boulder, Colo. and London: Westview Press, 1987. Pp. xvii, 230. \$36.00. ISBN 0-8133-0432-6. JEL 87-0738

Covers both the economic and political aspects of defense spending. Provides a theoretical framework and explains, in a political economy context, the results of decisions to allocate scarce resources to defense. Discusses possible alterations to the U.S. defense establishment structures that would permit more efficient solutions. Describes the na-

tional security objectives, discusses defense, procurement and budget processes, and the politics of national defense spending, using the MX missile as a case study. Analyzes the economics of production, distribution, and defense, evaluating alternative economic systems approaches and describing types of market failures. Examines the defense budget; regional defense spending; the defense industrial base; efficient production of weapon systems; cost factors; efficiency issues; and international aspects such as burden sharing and security assistance. The final part examines the political economy of the program and presents solutions to resource allocation problems. Weida is Associate Professor at the Colorado College, Colorado Springs. Gertcher is Senior Research Specialist at R&D Associates, Colorado Springs. Bibliography; index.

WOOD-RITSATAKIS, A. *Unified social planning in the Greek context*. Centre of Planning and Economic Research Studies series, no. 23. Athens: Centre of Planning and Economic Research, 1986. Pp. xiii, 169. Paper. JEL 87-0739

Examines the nature of development planning, its rationale, problems, and techniques. Proposes an approach to planning that integrates both economic and social considerations, recognizing social justice as its aim. Examines development planning in Greece from this perspective, particularly the 1968-72 Development Plan. After a discussion of the nature of planning, including a brief history, reasons for its existence, methods for evaluation, decision making, and planning techniques, the author describes unified planning and the development of social indicators. Summarizes the Greek experience with development planning, reviewing the economic and administrative background for the 1968-72 plan. Examines aims of that plan and measures designed to attain them. Develops a set of social indicators to assess the plan's achievements with regard to education, health, social welfare, housing, industry and agriculture, and the aging, women, and regional population groups. Concludes that the plan in Greece did not recognize multisectoral objectives, emphasized productivity growth instead of people's needs, and did not include popular participation. For the future, suggests that there is a need for a clearer definition of goals and objectives at all levels. Author's Ph.D. dissertation accepted by the University of Manchester (1984). Bibliography; no index.

See also: Book Numbers JEL 87-0724, 87-0732, 87-0743, 87-0750, 87-0752, 87-0816, 87-0838, 87-0853, 87-0872, 87-0885, 87-0934

120 COUNTRY STUDIES

BANK OF ISRAEL. *Bank of Israel Annual Report 1985: Presented to the Government and the Finance Committee of the Knesset in accordance with Section 59 of the Bank of Israel Law, 5714-1954.* Jerusalem: Author, 1986. Pp. ix, 227. Paper. ISSN 0067-635X. JEL 87-0740

English edition is an abridged version of the original Hebrew Report. Based on material prepared and analyzed by the Bank's research department and data supplied by the Central Bureau of Statistics. Reviews the economy in general, emphasizing developments under the "package deals"—tripartite price-wage agreements between the government, Histadrut (Trade Union Federation), and the employers' organization. Credits these deals with slowing inflation from 23 percent monthly to 4-5 percent. Reviews the main features of the economic stabilization program, discussing the budget, exchange rates, taxation, wages, prices, monetary policy, and the capital markets. Other chapters deal with product and domestic demand, disposable income, and private consumption and saving; prices, employment, and wages; the public sector; the principal economic sectors such as agriculture, industry, construction, transport and communications, tourism, and energy; the balance of payments, including its financing and the foreign debt; money and capital markets; and activities of the Bank of Israel. No index.

BOSWORTH, BARRY P. AND RIVLIN, ALICE M., eds. *The Swedish economy.* Washington, D.C.: Brookings Institution, 1987. Pp. xvi, 338. Paper. ISBN 0-8157-1041-0. JEL 87-0741

Seven papers and commentaries resulting from a conference held at Skokloster, Sweden, in June 1986 examine the Swedish economy and its response to slower economic growth, currency devaluation, and attempts to decrease the budget deficit. Papers identify apparent strengths and weaknesses of the Swedish economic situation and the major economic choices facing Sweden at the end of the 1980s. Alice Rivlin provides an overview of the Swedish economy. Three papers, all by Barry P. Bosworth and Robert Z. Lawrence, consider how the domestic economy and the external sector are adjusting to slower economic growth and discuss existing macroeconomic policies and the current policy debate. Other topics are: efficiency and equality in Swedish labor markets (Robert J. Flanagan); taxes, transfers, and the Swedish labor supply (Gary Burtless); rethinking the role of the public sector (Edward M. Gramlich); and the political foundations of Swedish economic policy (R. Kent Weaver). Bosworth is Senior Fellow, Brook-

ings Economic Studies program, and Rivlin is Director of the program. Index.

CHR. MICHELSEN INSTITUTE, DEPARTMENT OF SOCIAL SCIENCE AND DEVELOPMENT, DEVELOPMENT RESEARCH AND ACTION PROGRAMME. *Bangladesh: Country study and Norwegian aid review.* Fantoft, Norway: Author, 1986. Pp. xxxiii, 353. Paper. ISBN 82-80584-06-3. JEL 87-0742

Report of a study of development aid to Bangladesh commissioned by the Norwegian Ministry of Development Cooperation. Part 1 deals with the political, social, and economic environment in which development aid operates and reviews Bangladesh's economy, population, and institutions. Part 2 outlines the overall nature of development assistance and the structure of and trends in Norway's aid to Bangladesh. Annexes outline the structure of the rural society, the agriculture and manufacturing sector, primary health care and family planning facilities, and aid to Bangladesh. Ole David Koht Norbye, coordinator of this study, is associated with the Chr. Michelsen Institute, Bergen. Bibliography; no index.

DACY, DOUGLAS C. *Foreign aid, war, and economic development: South Vietnam, 1955-1975.* Cambridge; New York and Sydney: Cambridge University Press, 1986. Pp. xix, 300. ISBN 0-521-30327-3. JEL 87-0743

Assessment of the relationship between the Vietnam War, foreign aid, and economic development in South Vietnam. Presents an economic survey of the Vietnamese economy; examines the goals and programming of U.S. aid; and analyzes the rate and pattern of growth and changes in indicators of economic development. Reviews the roles of land reform and income distribution and of domestic saving and foreign aid in economic development. Examines trends in, and causes of, wartime inflation and the nature of windfall gains from importing. Analyzes changes in the international value of the piaster, the nature of foreign assistance, sources of finance for public expenditures, and the fiscal dilemma in the Vietnamese economy. Evaluates the possibility of economic development in an environment of high military threat. Dacy is Professor of Economics at the University of Texas at Austin. Index.

DIETZ, JAMES L. *Economic history of Puerto Rico: Institutional change and capitalist development.* Princeton, N.J.: Princeton University Press, 1986. Pp. xxiii, 337. \$65.00, cloth; \$20.00, paper. ISBN 0-691-07716-9. JEL 87-0744

Focuses on the economic forces underlying the process of economic and social transformation in

the economy, arguing that the island's history is a connected ensemble of process, rather than a series of discrete events. Divides the history into five time spans: the period of Spanish colonialism; the early period of U.S. control, 1898-1930; the crisis and transformation of the 1930s; origins of industrialization, from state capitalism to Operation Bootstrap; and growth and misdevelopment from the 1950s to the present. Emphasizes how Puerto Rico has interacted with the world economy, living conditions of the workers, and the role of female workers. Notes that external capital interests are continuing to shape the characteristics of the economy. Also criticizes slighting agriculture in the development strategy. Presents a conclusion for other developing nations that economic "growth may occur for some, as in Puerto Rico in the past, but the price to be paid is high: an inappropriate and disarticulated structure of production." Dietz is Professor of Economics and Latin American Studies at California State University, Fullerton. Bibliography; index.

EUROPA PUBLICATIONS. *The Middle East and North Africa*, 1987. Thirty-third edition. London; Collaroy, New South Wales, Australia; New Delhi and Tokyo: Author; distributed in America by Gale Research, Detroit, 1986. Pp. xix, 911. \$135.00. ISBN 0-946653-22-4. JEL 87-0745

Thirty-third annual up-dated guide to the Middle East and North Africa. Part 1 is a general survey of the region and contains fifteen essays and/or sections. Essay topics include religions, the Arab-Israeli confrontation, the Jerusalem issue, oil, natural gas, Islamic politics, arms trade, and Islamic banking and finance. Other sections pertain to documents on Palestine; Palestine organizations; the Suez Canal; calendars, time, and weights and measures; research institutes; and select bibliography. Part 2 provides information on regional organizations. Part 3 consists of twenty-four country surveys including information on physical and social geography, history, the economy, and statistics. Each survey also contains a bibliography and country directory which provides information on laws and government, political organizations and leaders, diplomatic representation, religion, the press, publishers, radio and television, finance, trade and industry, transport, tourism, atomic energy, defense, and education. No index.

JERVE, ALF MORTEN, ed. *Pakistan: Country study and Norwegian aid review*. Fantoft, Norway: Chr. Michelsen Institute, Department of Social Science and Development, Development Research and Action Programme, 1985. Pp. xvii, 414. Paper. ISBN 82-90584-04-0. JEL 87-0746

A study commissioned by the Norwegian Department of Development Cooperation evaluates Norwegian development aid to Pakistan. Part of the report analyzes the political, economic, and social environment within which development assistance operates. Part 2 reviews the Norwegian aid experience in Pakistan, assesses the possibility of realizing Norwegian aid principles, and presents recommendations for a reorientation of Norwegian aid. Annexes present individual background paper on selected development issues and sectoral assessments. The authors are: Karin Ask, Per Tobiesen Aart van de Laar, Rodney Åsberg, Bård A. Andreassen, Armino Miranda, Ijaz Nabi, To. Skålne, Hugo Stokke, and the editor. Alf Morten Jerve is a Research Fellow at the Chr. Michelsen Institute, Bergen, Norway. Bibliography; no index.

JOHANSEN, HANS CHRISTIAN. *The Danish economy in the twentieth century*. New York: St. Martin's Press, 1987. Pp. 221. \$35.00. ISBN 0-312-00373-0. JEL 87-0747

Analysis of the evolution of the Danish economy during the period 1920-80. Outlines the trend and developments during the nineteenth century, and the state of the economy in 1920. Presents the trends in economic and social development over the entire period and reviews the change that occurred during the 1920s, the depression war and occupation, the changeover to peacetime, the balance-of-payments crisis due to external shocks, the evolution of the welfare state, and the problems and divisions that surfaced after 1973. Assesses the developments of these sixty years and examines certain proposed policies for dealing with the balance-of-payments disequilibria. Johansen is Professor of Economic History at the University of Odense, Denmark. Bibliography; index.

MESA-LAGO, CARMELO, ed. *Cuban studies*. Volume 16. Pittsburgh: University of Pittsburgh, Center for Latin American Studies, 1986. Pp. x, 297. \$24.95. ISBN 0-8229-3540-6. JEL 87-0748

Inaugural edition of an annual series, which is the transformation of the journal, *Cuban Studies. Estudios Cubanos*, into an annual hardcover publication. Contains nine interdisciplinary articles, a debate section, book reviews, and a classified listing of recent work in Cuban studies. The first section, (prepared under the guest editorship of Enrico Mario Santi) consists of seven papers on aspects of the emergence of Cuban national identity six of which were originally presented at a symposium held at Cornell University in April 1985. Two papers examine new trends in the Cuban economy, focusing on state enterprises under the new system of planning and management and

the economics of Cuban joint ventures. Two other articles debate the role of "Cubanology." The contributors are Latin American specialists. Mesa-Lago is Distinguished Service Professor, Department of Economics, University of Pittsburgh. No index.

MINAMI, RYOSHI. *The economic development of Japan: A quantitative study*. Translated by RALPH THOMPSON AND RYOSHI MINAMI with assistance from DAVID MERRIMAN. Studies in the Modern Japanese Economy series. New York: St. Martin's Press, 1986. Pp. xxvi, 487. \$37.50. ISBN 0-312-22876-7. JEL 87-0749

Translated (with some changes) from the Japanese edition, *Nihon no Keizai hatten* (1981). Changes include a new introductory section; inclusion of reviews of the Japanese edition; a new section on industrial organization and policies; updated tables, figures, and text; reliance on mainly English language sources; and exclusion of sources in Japanese found in the original edition. Analyzes the last hundred years of economic development in Japan. Focuses on the reasons for Japan's achievement of modern economic growth and a more rapid rate of economic growth than other developed countries and considers the probable future of the Japanese economy. Overviews Japan's economic history; assesses its readiness for modern economic growth; analyzes levels, trends, and fluctuations in its growth rate; and discusses structural changes related to production, demand, population, and labor supply. Also examines the labor market and the dual wage structure, public finances and the financial system, and prices and living standards. The concluding chapter considers future prospects for economic growth, e.g., a lower growth rate and transition to a welfare economy. Minami is Professor of Economics, Institute of Economic Research, Hitotsubashi University, Tokyo. Bibliography; name and subject indexes.

SMITH, KERRI, ed. *Soviet industrialization and Soviet maturity*. Economy and Society series. London and New York: Routledge and Kegan Paul in association with Methuen, New York, 1986. Pp. 214. \$15.95, paper. ISBN 0-7102-0765-4.

JEL 87-0750

Nine papers, most published in *Economy and Society* from 1978-1981, concerned with aspects of Soviet economic and political order. Papers assess and criticize Marxist theory while analyzing the Soviet Union. Major areas of discussion include: (1) the period of the New Economic Policy from 1921 to 1928, emphasizing the policy debates, the ideas and institutions around which it was organized, the causes of its abandonment, and the sys-

tem that finally emerged; (2) the character of Soviet planning and the system of economic calculation, particularly the role of commodity exchange and monetary calculation, the nature of monetary and planning instruments, the social and political significance of monetary calculations, and Soviet planning techniques; (3) the social and constitutional character of the U.S.S.R., as formulated in official doctrine and constitutional arrangements. Smith teaches at the University of Keele. No index.

STAUFFER, ROBERT B. *The Philippines under Marcos: Failure of transnational developmentalism*. Sydney: University of Sydney, Transnational Corporations Research Project, 1986. Pp. 207. Paper. ISBN 0-908470-69-X. JEL 87-0751

Brings together several essays and articles written by the author between 1973 and 1985 presenting the thesis that the then new Marcos government should be viewed in the context of an ongoing struggle over the direction of the country's political economy rather than just an examination of internal Philippine conditions. One theme is the application of dependency/world-system analysis to the third world. Traces the forces in the Philippines by successively discussing the Marcos coup, the political economy of refudalization, the development of Philippine corporatism, Philippine authoritarianism, the development of dependent state capitalism, the Manila-Washington, D.C. connection, the Marcos regime, and the Marcos legacy. Stauffer is Professor of Political Science at the University of Hawaii. No index.

TUAN, NGUYEN ANH. *South Vietnam, trial and experience: A challenge for development*. Monographs in International Studies, Southeast Asia Series no. 80. Athens, Ohio: Ohio University Center for International Studies, Center for Southeast Asian Studies, 1987. Pp. 461. \$15.00, paper. ISBN 0-89680-141-1. JEL 87-0752

Addresses the world's perception of the character of South Vietnam's society, government, and economic system in order to clarify the record as to what sort of social system prevailed during the war years. Begins with an introduction focusing on historical preconditions. The text is divided into two parts. Part 1 examines the years of trial from 1954 to 1975, retracing the evolution of South Vietnam development policies. Subdivides the period into four chapters: 1954-63, examining the problems to come; 1963-68, focusing on the mounting pressures; 1968-73, describing the chances of survival; and 1973-75, dealing with the final outcomes. Part 2 assesses the lessons of experience and contains chapters on the facts of underdevelopment, the burden of the war, the impact of foreign

aid, and the dynamics of change. Concludes with a discussion of the challenge for development. Tuan is a visiting lecturer at the University of Kansas. Bibliography; index.

VARTIA, PENTTI, ET AL. *Growth policies in a Nordic perspective*. Helsinki: Research Institute of the Finnish Economy; Copenhagen: Institute for Future Studies; Stockholm: Industrial Institute Economic and Social Research; Bergen, Norway: Institute of Industrial Economics, 1987. Pp. 376. SKr. 308.00. ISBN 91-7204-276-1. JEL 87-0753

Joint comparative analysis of economic growth in Denmark, Finland, Norway, and Sweden conducted by research institutes in the four countries. Extends the analysis of the 1984 study, *Economic Growth in a Nordic Perspective*, by focusing on economic policy and factor market efficiency. Contains two overview papers, four country-specific papers, and three special studies. The first overview paper considers structural features, recent performance, and the current state of the four Nordic economies as a group, as well as their industrial base and possible growth policies. The second discusses the prospects for world economic recovery in the medium term. The country-specific papers examine the economic status, challenges, and policy options facing each Nordic country. The special studies discuss newly established fast-growing Nordic companies, financial markets, and labor market flexibility. Vartia is at the Research Institute of the Finnish Economy, Helsinki. Rolf Jensen is at the Institute for Futures Studies, Copenhagen, Denmark. Gunnar Eliasson is at the Industrial Institute for Economic and Social Research, Stockholm. Arne Selvik is at the Institute of Industrial Economics, Bergen, Norway. No index.

WALSH, KENNETH AND KING, ADRIAN. *Handbook of international manpower market comparisons*. Institute of Manpower Studies. New York: New York University Press, 1986. Pp. 318. \$90.00. ISBN 0-8147-9217-0. JEL 87-0754

Intended to assist in making international comparisons of key labor market indicators, bringing together in one volume a range of data normally available only in a diverse number of sources. Where available statistics permit, a ten-year historical perspective is presented. Covers sixteen countries, the majority being the constituent members of the European Community: Belgium, Denmark, France, West Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, the United Kingdom, Norway, Sweden, Japan, and the United States. Selection of indicators reflects availability of data and the usefulness of the information. Key indicators include demography, labor

force, unemployment, education, industrial relations, labor costs, and consumer prices. Many sub-classifications of statistics appear under the above titles. Recognizes variations in statistical compilation and definitions among the different countries. A comparison is made of selected indicators. Walsh is Research Fellow at the Institute of Manpower Studies, Sussex. King is a management consultant. No index.

See also: Book Numbers JEL 87-0699, 87-0716, 87-0837, 87-0845

130 ECONOMIC FLUCTUATIONS; FORECASTING; STABILIZATION; AND INFLATION

AHLSTEDT, MONICA. *Small sample estimation and stochastic simulation of an econometric model*. Helsinki: Suomen Pankki, 1986. Pp. 181. Paper. ISBN 951-686-127-X. JEL 87-0755

Investigates how to improve the reliability of macroeconomic models by minimizing the uncertainty in the estimation phase of the model. Examines how to calculate the variance-covariance matrix of forecasts so as to measure the reliability of the model. Sections consider the estimation of a simultaneous model, measuring the uncertainty in the simultaneous model predictions, empirical estimation, and empirical results of the variance matrix of the forecast error. Concludes that an interactive instrumental estimation method is optimal according to analytical criteria of consistency and relative efficiency and that use of a residual-based stochastic simulation method obtains the best results when calculating the mean and variance of forecasts. The empirical part of the study applies the methods to the structural annual model of the Bank of Finland. Appendices elaborate on the variables, parameter estimates, terms, and definitions used in the study. Ahlstedt is in the Statistics Department, University of Helsinki. No index.

CLEMENTS, R. T.; HANSEN, C. D. AND HAMES, M. J. *The reserve bank econometric model of the New Zealand economy: Model XI*. Research Papers series, no. 40. Wellington: Reserve Bank of New Zealand, 1986. Pp. 62. Free, paper. JEL 87-0756

Outlines the latest version of the Reserve Bank of New Zealand model of the economy. Traces the history of the model from its inception to 1983. Indicates how the model was reestimated and presents a description of the model structure. Examines the simulation properties of the model and reports the results of an international comparison of econometric models' simulation properties. Assesses the acceptability of the model as a forecasting tool, discusses areas of the model currently

under investigation, and suggests further extensions to the model's development. Appendices contain the model specification, data definitions and notation, and a cross-reference of variables. The authors are at the Reserve Bank of New Zealand, Wellington. No index.

EUCKEN, WALTER AND BÖHM, FRANZ, eds. *ORDO: Jahrbuch für die Ordnung von Wirtschaft und Gesellschaft*. Band 37. Stuttgart and New York: Fischer, 1986. Pp. xi, 304. DM 84.00, paper. ISBN 3-437-50304-9. JEL 87-0757

Twelve articles in German with English summaries and seven book reviews, also in German. Topics are: economic policy in the election platforms of the French political parties, Alexander Rüstow's conception of economic and social policy, social policy in the market economy, the role of the shadow economy in market economies and in centrally planned economies, the evolution of private property, competition as a dynamic process, competitive dimensions of the oligopoly market, evasions of regulations in financial markets as a test of concepts of competition policy, a critical assessment of theses of the Federal Cartel Office concerning "buying power" positions in German food retailing, public utilities and the competitive system, forms and causes of the new protectionism, and exchange control and economic growth in developing countries. Name and subject indexes.

FRISCH, HELMUT AND GAHLEN, BERNHARD, eds. *Causes of contemporary stagnation: Proceedings of an International Symposium held at the Institute for Advanced Studies, Vienna, Austria, October 10-12, 1984*. Studies in Contemporary Economics series. Berlin; New York and Tokyo: Springer, 1986. Pp. vii, 216. \$22.60, paper. ISBN 0-387-16465-0. JEL 87-0758

Ten papers investigate the causes of the persistence of stagnation in Western European economies in the 1980s despite a business cycle upturn in the U.S. economy. Papers discuss what the U.S. economic policies could have been; the costs and benefits of a disinflationary policy in West Germany; the nature of price and quantity variability under stagflation; the relevance of business cycle theories to an explanation of the economic slowdown; international portfolio shifts and the choice of monetary rules; an interpretation of long waves in relative prices; the relationship between real wages, business cycles, and unemployment; the applicability of Schumpeterian innovation to an explanation of stagflation; the relationship between wage rate variation and the level of unemployment; and the role of asymmetric adjustment costs and price stickiness. Frisch is with the Institut für Volk-

swirtschaftslehre und Wirtschaftspolitik, Vienna. Gahlen is at Lehrstuhl für Volkswirtschaftslehre I, Augsburg University, West Germany. No index.

INTERNATIONAL LABOUR OFFICE. *World recession and global interdependence: Effects on employment, poverty and policy formation in developing countries*. Geneva: Author, 1987. Pp. xi, 139. Paper. ISBN 92-2-105608-2. JEL 87-0759

Six papers analyze the world recession that occurred after 1973, the nature of international economic linkages, and the impact on developing economies in Latin America, sub-Saharan Africa, and Asia. One paper reviews the characteristics of the recession in industrialized and developing countries, changes in developing country imports, and employment in OECD countries. A second paper traces trends in world and regional trade and in resource flows and direct foreign investment. Three papers outline the impact on economic performance, domestic economic policies with special reference to adjustment, and stabilization policies in Latin America, sub-Saharan Africa, and Asia. A final paper examines the effects and spread of (and adjustment to) the crisis and analyzes prospects for recovery. The contributors are: R. van der Hoeven, P. J. Richards, V. Tokman, J. Wurgalt, A. Aboagye, K. Goso, I. Ahmed, and E. Lee, who are associated with the ILO and its Regional Employment Teams. No index.

ISSERMAN, ANDREW M., ed. *Population change and the economy: Social science theories and models*. Dordrecht, the Netherlands and Lancaster: Kluwer Academic, Kluwer-Nijhoff; distributed in the U.S. and Canada by Kluwer Academic, Hingham, Mass., 1986. Pp. xvii, 269. \$42.50. ISBN 0-89638-140-1. JEL 87-0760

Eleven papers originally presented at the Second International Conference on Forecasting Regional Population Change and Its Economic Determinants and Consequences sponsored by the American Statistical Association and U.S. Bureau of the Census at Arlie, Virginia, in May 1982 as part of the ASA/Census program supported by NSF to build the interregional economic-demographic model of the United States (ECESIS). The papers are chosen to reflect the state-of-the-art ability to model economic-demographic interrelationships mathematically, using computers and real data; their emphasis is on models for regions, states, provinces, or metropolitan areas. The three papers in part 1 examine the economic determinants of migration and fertility rates; they review the theoretical literature and discuss forecasting for regional births and for interregional migration. Part 2 consists of three papers that present regional

economic-demographic models for Texas and New York, and related modeling strategies. Part 3 contains three papers that describe various economic-demographic modeling frameworks, including ECESIS. The remaining two papers in part 4 discuss the progress and prospects for regional economic-demographic modeling and models. The contributors are mainly economists, social scientists, and population specialists. Isserman is Director of the Regional Research Institute and Professor of Economics and Geography, West Virginia University. No index.

- JONES, RUSSELL. *Wages and employment policy, 1936-1985*. With a foreword by SIR ALEC CAIRNCROSS. London; Winchester, Mass. and North Sydney: Allen and Unwin, 1987. Pp. xvii, 175. \$29.95, cloth; \$14.95, paper. ISBN 0-04-331111-3, pbk.
JEL 87-0761

A history of British incomes policy or actions to restrict collectively bargained wage increases in order to reduce wage inflation. Investigates the development of thinking and policy in successive governments since 1936. Describes why measures taken to ameliorate the wages problem kept failing, focusing on the errors in policy formulation. Inquires whether there is a future for Keynesian economic policies or whether monetarist techniques will continue indefinitely. Examines which lessons from the past can be applied to the wage problem in view of a new era of Keynesian policy prescriptions and the disillusionment with monetarism. Concludes that the inflationary process that helped undermine Keynesianism was rooted in deep economic, institutional, social, and political forces, with a tendency of successive governments to overstimulate the economy. Suggests that future incomes policies that have long-run objectives, have the support of both labor and management, involve tax-based incomes proposals, and embody wage restraints would have a chance of success. Jones is Senior Currency Economist at James Capel Bankers Ltd. Bibliography; index.

- KLEINKNECHT, ALFRED. *Innovation patterns in crisis and prosperity: Schumpeter's long cycle reconsidered*. Foreword by JAN TINBERGEN. New York: St. Martin's Press, 1987. Pp. xviii, 235. \$32.50. ISBN 0-312-41816-7.
JEL 87-0762

Analysis of long waves in economic life. Considers their existence, characteristics, and causes. Deals with the origin and renaissance of the long wave, their analysis by J. van Gelderen, and the nature of the controversy between Simon Kuznets and Joseph Schumpeter regarding the forces underlying long waves. Part 1 investigates the existence of long waves. Part 2 analyzes the occurrence

of radical innovations in order to determine the existence of clustering and examines the relationship between cluster of radical innovations and long wave fluctuations in the economy. Part 3 reviews data from the post World War II period and focuses on characteristics of the innovation process during the upswing and upper turning point of the postwar long wave. Concludes that waves of radical innovations are an endogenous part of the long wave process and that prolonged depressions may trigger a reallocation of innovative resources and exert pressure toward social, political, and institutional change. Kleinknecht is Lecturer in Economics at Limburg University in Maastricht, the Netherlands. Bibliography; index.

- MAGER, NATHAN H. *The Kondratieff waves*. New York and London: Greenwood, Praeger, 1987. Pp. viii, 247. \$37.95. ISBN 0-275-92149-2.
JEL 87-0763

Examines the Kondratieff wave theory from the perspective of current evidence and experience. Begins with an introduction to the historical account of economic cycles, including ancient concepts, the national cycles theory, the background of economic cycles, the Keynesian approach, macroeconomic models, and rational expectations. Identifies four current approaches—Keynesian monetarist, rational expectations, and supply side. Follows with a discussion of the long wave cycle—a duration of 50-60 years—the Kondratieff wave, including comments and criticisms. Reviews four such waves: 1789-1814-43; 1843-64-96; 1896-1920-49; and 1949-73-2003. Analyzes causes and consequences of these waves, emphasizing innovation, investment, and maturation and war, demographics, and social change. Concludes with a preview of a fifth wave, with contributing factors such as the decrease in the U.S. competitive position, the increase in world debt, the plight of many banks, the population growth in LDCs, and the changing industrial-service pattern. Mager is a freelance writer. No index.

- RAYACK, ELTON. *Not so free to choose: The political economy of Milton Friedman and Ronald Reagan*. New York and London: Greenwood Press, Praeger, 1987. Pp. x, 215. \$37.95. ISBN 0-275-92363-0.
JEL 87-0764

Primary focus is an analysis of some of the major themes in the popular writings of Milton Friedman, covering some 300 columns in *Newsweek* two popular best sellers—*Capitalism and Freedom* and *Free to Choose*, and essays and interviews appearing in other popular publications. Includes commentaries on his ideas about the role of government; the political case for free trade; free markets,

planning, and the Chilean experience; the attack on the welfare state; big government; a variety of social programs; and freedom and equality. Argues, contrary to Friedman's beliefs, that not all social programs have been failures, that free markets do not necessarily produce peace, that economic growth is not necessarily inhibited by growth in government, and that the Chilean free market experience was more a disaster than a miracle. Discusses fallacies of monetarism. Asserts that Reagan's announced programs, though following the Friedman philosophy in areas such as tax cuts, curbing social programs, cutting expenditures, and espousing free trade, have diverged from it. Concludes that Friedman's one-sided balance sheet on social issues has denied the reader "the opportunity to be truly free to choose." Rayack is Professor of Economics at the University of Rhode Island. Bibliography; index.

UNITED NATIONS DEPARTMENT OF INTERNATIONAL ECONOMIC AND SOCIAL AFFAIRS. *Economic recession and specific population groups*. U.N. Publication Sales No. E.86.IV.4. New York: Author, 1986. Pp. 99. \$11.00, paper. ISBN 92-1-130110-6.

JEL 87-0765

Deals with the effects of international stagnation and recession on specific population groups, particularly during 1973-75 and 1981-83. Assumes that conditions faced by these groups are the result of factors affecting society as a whole and forces distinctive to each group. Describes the major features of international recessions, emphasizing employment and likely poverty trends in developing countries. Reviews policy making in periods of crisis and the social impact of some policies on employment, wages, and social services. Discusses solidarity and social support in the family, community, and nation during recessionary periods. Examines the impacts of recession on youth and the aged. Concludes that the international recession has affected countries with different levels of development and economies, with some experiencing more severe effects than others. No index.

also: Book Numbers JEL 87-0667, 87-0678, 87-0705, 87-0715, 87-0733, 87-0740, 87-0837, 87-0874, 87-0944, 87-0945

Quantitative Economic Methods and Data

210 ECONOMETRIC, STATISTICAL, AND MATHEMATICAL METHODS AND MODELS

MYERSE, JEAN M. AND PRESSER, STANLEY. *Survey questions: Handcrafting the standardized ques-*

tionnaire. Quantitative Applications in the Social Sciences Series, Sage University Paper, no. 63. Beverly Hills, London and New Delhi: Sage, 1986. Pp. 80. \$6.00, paper. ISBN 0-8039-2743-6.

JEL 87-0766

Presents guidelines for writing survey questions. Examines general strategies that have emerged from examples or experience of "question-crafters" and findings of empirical researchers, e.g., simple language, common concepts, manageable tasks, and widespread information. Surveys recent research findings related to question design and question effects. Examples of topics are: specific vs. general and open vs. closed questions, the no-opinion option, measuring intensity, forced-choice questions, question order, and wording effects. Also considers pilot work and the strategies, purposes, and phases of pretesting. Converse is Director of the Detroit Area Study, University of Michigan. Presser is Associate Director of the Sociology Program, National Science Foundation, Washington, D.C. No index.

FEIRING, BRUCE R. *Linear programming: An introduction*. Quantitative Applications in the Social Sciences Series, Sage University Paper, no. 60. Beverly Hills; London and New Delhi: Sage, 1986. Pp. 91. \$6.00, paper. ISBN 0-8039-2850-5.

JEL 87-0767

Considers linear programming modeling concepts and examples, graphical solutions of linear programs in two variables, the Simplex Method for solving linear programs, sensitivity analysis, and computer linear programming codes for understanding input and output of commercially available linear programming (LP) systems. Examples and problems are interspersed throughout the text. Two appendices provide mathematical development of the properties of linear programming problems and methods for production scheduling. Feiring is a consultant and Adjunct Associate Professor of Management Sciences, University of Minnesota. No index.

FOX, JAMES ALAN AND TRACY, PAUL E. *Randomized response: A method for sensitive surveys*. Quantitative Applications in the Social Sciences series, Sage University Paper, no. 58. Beverly Hills; London and New Delhi: Sage, 1986. Pp. 80. \$6.00, paper. ISBN 0-8039-2309-0.

JEL 87-0768

Describes the randomized response survey method and how it can be used to protect survey respondents and minimize survey bias when estimating behavioral frequencies when the behavior is sensitive, socially disapproved, or perhaps criminal. The first section identifies the kinds of measurement problems customary in survey research.

describes the ethical and legal problems inherent in surveying human subjects, and discusses the inadequacy of traditional approaches that have been adopted to minimize these problems. The remainder of the book discusses the randomized response technique and applications of randomized response methods. Examines randomized response strategies, design considerations, polychotomous and quantitative measures, subgroup comparisons, measures of association, and disclosure control. Reviews substantive applications of the methods, studies that compare randomized response to other survey methods, and related validation research. Concludes that the randomized response method warrants serious consideration in survey efforts. Fox is Professor of Criminal Justice, and Tracy is Assistant Professor and Director of the Graduate Program in Criminal Justice, Northeastern University, Boston. No index.

HANEVELD, WILLEM K. KLEIN. *Duality in stochastic linear and dynamic programming*. Lecture Notes in Economics and Mathematical Systems series, vol. 274. New York; Berlin; London and Tokyo: Springer, 1986. Pp. vii, 295. \$30.30, paper. ISBN 0-387-16793-5. JEL 87-0769

An analysis of certain problems that arise in stochastic linear programming and stochastic dynamic programming. Introduces the terminology of mathematical programming and presents the duality theory of convex programming problems in abstract space. Deals with the specification of linear programming models, covers multistage stochastic linear programming models, and discusses the relationship between stochastic linear programming and stochastic dynamic models. Presents a general framework for abstract linear programming duality and analyzes the nature of linear chance constraints. Deals with the behavior of the optimal value operator of dynamic programming, robustness against dependence in PERT, and presents and analyzes a production-inventory model. Haneveld is associated with the Institute of Econometrics, University of Groningen, the Netherlands. Subject index.

JOHNSON, AARON C., JR.; JOHNSON, MARVIN B. AND BUSE, RUEBEN C. *Econometrics: Basic and applied*. New York: Macmillan; London: Collier Macmillan, 1967. Pp. xv, 480. \$29.00. ISBN 0-02-360920-6. JEL 87-0770

Introductory textbook focusing on applied research; prerequisites are an introductory statistics course and familiarity with population parameter estimation, hypothesis testing, and with the theory of a specific discipline. Covers: the principle of

equation regression theory and simple regression, multiple regression, correlation, distribution theory and hypothesis testing, and matrix notation. Covers practical application of regression techniques to research problems. Presents standard econometric problems i.e., multicollinearity, omitted relevant and included irrelevant variables, heteroscedasticity and autocorrelation, and sample deficiencies. Discusses the use of time in applied regression analysis. Considers the writing of research reports and presents the basic theorems of matrix algebra and their relationship to regression theory. Each chapter ends with a summary, list of new terms, and exercises. Also contains an appendix of statistical tables, suggested readings, and answers to selected exercises. The authors are at the University of Wisconsin, Madison. Glossary; index.

KLOCKARS, ALAN J. AND SAX, GILBERT. *Multiple comparisons*. Quantitative Applications in the Social Sciences series, Sage University Paper, no. 61. Beverly Hills; London and New Delhi: Sage, 1986. Pp. 87. \$6.00, paper. ISBN 0-8039-2051-2. JEL 87-0771

Introduction to the methods most commonly used in the social and behavioral sciences to investigate differences between levels of an independent variable within an experimental design; emphasizes tests of significance. Reviews the analysis of variance and hypothesis testing, describing the dimensions on which multiple comparisons vary and methods for *a priori* comparisons, pairwise methods for *post hoc* comparisons, and the Scheffé Test for *post hoc* comparisons. Considers multiple comparisons in factorial designs and testing comparisons of interaction. Also addresses issues of unequal sample size and violations of assumptions. Klockars is Professor of Educational Psychology and Sax is professor of Education and Psychology, both at the University of Washington. No index.

KMENTA, JAN. *Elements of econometrics*. Second edition. New York: Macmillan; London: Collier, [1971] 1986. Pp. xii, 786. \$26.50. ISBN 0-02-365070-2. JEL 87-0772

Second edition of an introductory econometrics textbook. [See JEL no. 71-1087 for annotation of the first edition.] Revisions in this edition include simplification of exposition and introduction of new topics, such as: heteroskedasticity and autocorrelated disturbances; errors of measurement and grouped data; multicollinearity and specific errors; restricted coefficients, nonlinear models, and distributed lags; pooling of cross section and time series data; and special topics. Presents new material

section on Bayes theorem and Bayesian inference, new sections on nonnormality and nonzero means of the disturbance, and qualitative or limited dependent variables. Requires mathematical background, including college algebra, calculus, and some descriptive statistics. Kmenta is Professor of Economics and Statistics at the University of Michigan. Index.

U, H. T. *Combinatorial heuristic algorithms with FORTRAN*. Lecture Notes in Economics and Mathematical Systems series, vol. 280. New York; Berlin; London and Tokyo: Springer, 1986. Pp. 26. \$16.10, paper. ISBN 0-387-17161-4.

JEL 87-0773

Analysis of the use of combinatorial heuristic algorithms. Part 1 deals with integer programming and covers integer linear programming, zero-one linear programming, and the zero-one knapsack problem. Part 2 considers network design and includes the traveling salesman problem, the Steiner tree problem, graph partitioning, the K-median location problem, and the K-center location problem. All programs for these problems are written in FORTRAN-77. Lau is associated with Bell-Northern Research, Quebec, Canada. No index.

TRKPOHL, HELMUT. *Forecasting aggregated vector ARMA processes*. Lecture Notes in Economics and Mathematical Systems series, no. 284. New York; Berlin; London and Tokyo: Springer, 1987. Pp. 323. \$32.80, paper. ISBN 0-387-17208-4.

JEL 87-0774

Compares predictors, specifically focusing on the level of aggregation of the data used for prediction. Data generation processes are assumed to be multivariate, nondeterministic, discrete-time stochastic processes that are, or can be made, stationary. The mean squared forecasting error is used as a measure of forecast accuracy. Examines vector stochastic processes, forecasting vector stochastic processes, forecasting contemporaneously aggregated known and estimated processes, forecasting temporally and contemporaneously aggregated known processes, temporal aggregation of stock and flow variables, and joint temporal and contemporaneous aggregation. A general conclusion is to use disaggregate data for prediction of the aggregate if a variable is a contemporaneous and temporal aggregate. The author is at the Institute for Statistics and Economics, University of Hamburg. Bibliography; no index.

SHROEDER, LARRY D.; SJOQUIST, DAVID L. AND STEPHAN, PAULA E. *Understanding regression analysis: An introductory guide*. Quantitative Ap-

plications in the Social Sciences series, Sage University Paper, no. 57. Beverly Hills; London and New Delhi: Sage, 1986. Pp. 95. \$6.00, paper. ISBN 0-8039-2758-4.

JEL 87-0775

Provides a heuristic explanation of the basic procedures and terms used in regression analysis and the background needed to understand empirical work that relies on regression analysis; assumes no statistics and only a minimal mathematics background. Focuses on the intuitive and verbal interpretation of regression coefficients, associated statistics, and hypothesis tests. Also explains other terminology encountered in literature and discusses major problems and issues encountered in regression analysis. Can be used as a supplementary text in a variety of courses; uses examples from business, education, and the social sciences. An earlier, more limited version was published under the title *Interpreting Linear Regression Analysis: A Heuristic Approach*. Schroeder is Professor of Public Administration and Economics in the Maxwell School and Director of the Metropolitan Studies Program, Syracuse University. Sjoquist is Professor of Economics and Stephan is Professor of Economics and Industrial Relations, Georgia State University. No index.

SEIERSTAD, ATLE AND SYDSAETER, KNUT. *Optimal control theory with economic applications*. Amsterdam; New York; Oxford and Tokyo: Elsevier Science, North-Holland; distributed in North America by Elsevier Science, New York, 1987. Pp. xvi, 445. \$49.50. ISBN 0-444-87923-4.

JEL 87-0776

Intended to serve as an introduction, advanced text, and reference source to the theory of deterministic control of systems governed by ordinary differential equations. Includes an introduction to the classical calculus of variations. Contains a large number of examples whereby the theory is applied to a variety of economic problems. Theoretical sections concentrate on rendering existence results, necessary conditions, and sufficient conditions. Models are used to illuminate qualitative and analytical points and cover growth, exploitation of resources, control of pollution, firm behavior, and differential games. Slight attention is given to dynamic programming and feedback controls. Introduction reviews concepts such as the state of the system, and static optimization. Chapters discuss the calculus of variations and optimal control theory with and without restrictions on state variables. A number of exercises are included, with answers. Seierstad and Sydsæter are at the University of Oslo. Index.

SENGUPTA, JATI K. *Stochastic optimization and economic models*. Theory and Decision Library Series

B: Mathematical and Statistical Methods. Dordrecht, the Netherlands; Boston; Lancaster and Tokyo: Kluwer Academic, Reidel; distributed in the U.S. and Canada by Kluwer Academic, Norwell, Mass., 1986. Pp. x, 373. \$79.50. ISBN 90-277-2301-X. JEL 87-0777

Considers the main aspects of stochastic optimization in economic models. Stochastic processes and control theory under optimization are used to illustrate the various economic implications of optimal decision rules. The objective is to present a critical overview of the area from a multidisciplinary perspective. Major topics discussed include: portfolio models in finance, differential games under uncertainty, self-tuning regulators, models of renewable resources under uncertainty, and nonparametric methods of efficiency measurement. The selected models are used to evaluate stochastic processes such as the Wiener process, jump process, and diffusion process in their implications for operational usefulness in policy making, computational flexibility, and adaptivity to new information and data. The author is Professor of Economics and Operations Research, University of California, Santa Barbara. Author and subject indexes.

SPANOS, ARIS. *Statistical foundations of econometric modelling*. Cambridge; New York and Sydney: Cambridge University Press, 1986. Pp. xxii, 685. \$34.50. ISBN 0-521-26285-2. JEL 87-0778

Designed as a textbook for advanced undergraduate and graduate level courses in econometric theory and as a reference book for research workers in applied econometrics. Prerequisites are basic courses in set theory, calculus, and linear algebra; no prior knowledge of probability, statistics, and/or econometric theory is assumed. Proposes an econometric modeling framework based on both economic theory and the structure of the observed data; emphasis is on choice of appropriate statistical models and misspecification testing. Part 1 presents an introduction to econometrics and the descriptive study of data. Parts 2 and 3 provide the background in probability theory and statistical inference needed to build an econometric methodology. Part 4 considers statistical models of interest in econometrics as extensions of the models presented in part 3. Models discussed include: the Gauss linear model, linear regression model, dynamic linear regression model, multivariate linear regression model, and simultaneous equations model. Uses examples to illustrate how concepts and procedures related to estimation, misspecification testing, and reparameterization can be used in practice. Spanos is Lecturer in Economics, Birkbeck College, London University. Index.

WOLF, FREDRIC M. *Meta-analysis: Quantitative methods for research synthesis*. Quantitative Applications in the Social Sciences Series, Sage University Paper, no. 59. Beverly Hills; London and New Delhi: Sage, 1986. Pp. 65. \$6.00, paper. ISBN 0-8039-2756-8. JEL 87-0779

Describes the meta-analysis approach, i.e., the application of statistical procedures to integrate, synthesize, and review collections of empirical findings from individual studies. Overviews the method and its use and discusses its advantages and the criticisms it has received. Presents three of the more common statistical tests (Fischer, Winer, and Stouffer combined tests) for combining the results of independent tests of the same hypothesis and discusses their selection. Considers measures of effect size for group differences and correlational relationships. Discusses methods for examining possible interactions or mediating effects and how to select a common metric to aggregate diverse statistics across studies. Examines bias problems and their reduction, including the file-drawer problem, weighting by sample size, unbiased estimate of effect size, tests of homogeneity, nonindependent results, validity, and reliability. Reviews nonparametric methods of effect size. The concluding chapter summarizes the strengths and limitations of meta-analysis and outlines guidelines when using it. Wolf is Assistant Professor of Postgraduate Medicine and Health Professions Education, University of Michigan. No index.

See also: Book Numbers JEL 87-0647, 87-0781

220 ECONOMIC AND SOCIAL STATISTICAL DATA AND ANALYSIS

ALESSANDRINI, SERGIO AND DALLAGO, BRUNO, eds. *The unofficial economy: Consequences and perspectives in different economic systems*. Aldershot, England and Brookfield, Vt.: Gower, 1987. Pp. 345. \$47.50. ISBN 0-566-05131-1.

JEL 87-0780

Twenty-one papers given at a seminar at the University of Trento on the unofficial economy, where over thirty anthropologists, sociologists, and economists from Europe, the United States, and Israel discussed its characteristics and importance. Organized into four parts. Papers in part 1 identify the nature and extent of the problem and describe the difficulties in determining accurate definitions of the unofficial economy. The second part discusses economic systems and contains papers that make an intersystematic comparative approach and those that present the main features of the unofficial economy in one specific system. Special attention is given to North Africa, Poland, and Hungary. Part 3 includes papers combining economic, socio-

logical, and anthropological analyses of specific organizational forms in various contexts. Papers concentrate on the effects of anti-Mafia law, the informal work of industrial workers, and the second economy in Soviet Georgia. The last part comments on consequences of the unofficial economy, specifically welfare and income distribution, and examines the measurement of hidden personal income in the U.S.S.R., expansion of the second economy in Hungary, welfare economic aspects, optimal income taxation, the untaxed sector, the inequality impact in Yugoslavia, and macroeconomic disequilibrium and the size of the unofficial economy in Poland. Alessandrini and Dallago are at the University of Trento. No index.

LYE, MICHAEL R. AND BLACK, DAN A. *Consumer behavior, cost of living measures, and the income tax*. Lecture Notes in Economics and Mathematical Systems series, vol. 276. New York; Berlin; London and Tokyo: Springer, 1986. Pp. 119. \$16.00, paper. ISBN 0-387-16797-8. JEL 87-0781

Provides a guide to the theory of consumer behavior and the construction of measures of the cost of living, focusing primarily on theoretical issues. Considers the traditional framework that ignores taxes and extends the theories to allow for an income tax. Organized as follows: overview and mathematical preliminaries, the theory of consumer behavior both in the absence and presence of an income tax, the authors' derivation of economic indices both in the absence and presence of taxation, and practical issues that arise in applying the derived theory. Assumes familiarity with calculus and set-theoretic concepts. Baye is a member of the Department of Economics, Texas A&M University. Black is a member of the Department of Economics, University of Kentucky. Bibliography; no index.

UPRIEZ, LEÓN H., ed. *Economic progress: Proceedings of a conference held by The International Economic Association at Santa Margherita Ligure, Italy*. Second edition. Edited by AUSTIN ROBINSON. New York: St. Martin's Press, [1955] 1967. Pp. xxviii, 399. \$45.00. ISBN 0-312-23633-6. JEL 87-0782

Reprint of the proceedings of a conference on Economic Progress held by the International Economic Association in 1953 with the addition of an index and a new introduction by Austin Robinson who comments on the 1953 thinking on economic progress and development. Nineteen contributions are divided into six parts as follows: (1) the Meaning and Criteria of Economic Progress; (2) the Progress of Industrialization; (3) Investment and Progress; (4) Entrepreneurship, Technological Change and

Social Organization, (5) Public Policy for Economic Progress; and (6) the Theory of Secular Progress. Also includes the summary records of the discussions of papers. Robinson was (at the time of the conference) Professor of Economics at Cambridge. Index.

UNITED NATIONS DEPARTMENT OF INTERNATIONAL ECONOMIC AND SOCIAL AFFAIRS, STATISTICAL OFFICE. *Handbook of national accounting. Accounting for production: Sources and methods*. Studies in Methods, Series F, no. 39. U.N. Publication Sales No. E.86.XVII.11. New York: United Nations, 1986. Pp. xi, 180. \$17.50, paper. ISBN 92-1-161264-0. JEL 87-0783

A manual on sources and methods for compiling the production statistics needed for the U.N. System of National Accounts as reflected in the U.N. National Accounts Questionnaire. Describes sources and methods for compiling gross domestic product both as the sum of the output of different producers and as the sum of final uses of that output; concerned only with estimates at current prices. Part 1 is a general introduction to the subject. It includes definitions and classifications, an overview of national accounts methodology, and basic sources of data. Part 2 describes the production approach to GDP and GDP by kind of activity. Part 3 considers the cost components of GDP, and part 4, final expenditures on GDP. Also available in French, Russian, and Spanish. Bibliography; no index.

WOLFF, EDWARD N. *Growth, accumulation, and unproductive activity: An analysis of the postwar U.S. economy*. Cambridge: New York and Melbourne: Cambridge University Press, 1987. Pp. xi, 201. \$37.50. ISBN 0-521-25151-6. JEL 87-0784

Marxian analysis of the impact of a rising level of unproductive activity on capital accumulation and productivity. Documents the importance of unproductive labor activity in the postwar American economy (1947-76) and assesses its implications. Presents a methodology by which standard accounting frameworks can provide an empirical basis for categories of Marxian analysis and develops a growth model to assess the effect of unproductive activity on surplus generation, capital accumulation, and the growth in productivity. Finds that the shift of resources to unproductive activities has reduced new capital formation and productivity growth and eroded the rate of growth in per capita living standards. Wolff is Professor of Economics, New York University.

See also: Book Numbers JEL 87-0730, 87-0734, 87-0631, 87-0635, 87-0640, 87-0656

300 Domestic Monetary and Fiscal Theory and Institutions

310 DOMESTIC MONETARY AND FINANCIAL THEORY AND INSTITUTIONS

BRANDEIS, LOUIS D. *Other people's money and how the bankers use it*. Reprint of second edition. Reprints of Economic Classics series. Fairfield, N.J.: Kelley, [1914, 1932] 1986. Pp. lxii, 223. \$25.00. ISBN 0-678-00856-6. JEL 87-0785

Includes a preface to the first edition as well as a lengthy foreword to the second by Norman Hapgood, a colleague of Brandeis. Most of the articles reprinted appeared in *Harper's Weekly* in 1913 and 1914. Essays discuss financial oligarchies, bank combinations, interlocking directorates, banking and the Pujo Committee recommendations, the role of publicity as a remedy for improper combination and control, the role of bankers in connection with state and local government bond issues, the role of big banks in industrial development, size as a factor in the rise of bank combinations, the failure of banker management, and the inefficiencies of oligarchies. The foreword, "Prophet and Statesman," discusses how Brandeis' philosophy influenced Supreme Court opinion and how history has tested the soundness of the philosophy. No index.

CHUA, JESS H. AND WOODWARD, RICHARD S. *Gains from stock market timing*. Monograph Series in Finance and Economics, no. 1986-2. New York: New York University, Graduate School of Business Administration, Salomon Brothers Center for the Study of Financial Institutions, 1986. Pp. 75. \$7.00, paper. JEL 87-0786

Reviews the academic literature on the subject of market timing and presents some new empirical tests and results on its value. After a general introduction, considers the importance of the accuracy required for market timing. Presents test results summarizing the returns to timing. Examines the cost and value of market timing. Section 4 reviews the literature on market timing performance. Cautions that different measures are applicable to each particular situation. Section 5 evaluates the timing and stock selection performance of samples of mutual funds from the United States and Canada over a ten-year period. The last section examines how existing technology can be used to improve the management of market timing activities. Chua is an Associate Professor of Financial Management and Woodward is an Associate Professor of Finance at the University of Calgary. No index.

DEVINNEY, TIMOTHY M. *Rationing in a theory of the banking firm*. Studies in Contemporary Economics

series. Berlin; New York and Tokyo: Springer, 1986. Pp. vi, 102. \$16.00, paper. ISBN 3-540-16052-3. JEL 87-0787

Develops a theory of credit rationing based upon the existence of risk-reducing informational technologies in which rationing is not so much the result of risk per se but rather the bank's ability to recognize and react to that risk. Discusses prior credit rationing theories, presents a model of credit rationing as a function of an information technology, and examines the informational value of long-term bank-customer relations. The concluding chapter considers implications of the theory for the role of nonprice rationing in a general equilibrium framework and regulatory and monetary policy. Devinney is Assistant Professor of Management, Owen Graduate School of Management, Vanderbilt University. No index.

FISHER, IRVING. *The theory of interest as determined by impatience to spend income and opportunity to invest it*. Reprints of Economic Classics series. Fairfield, N.J.: Kelley, [1930] 1986. Pp. xxvii, 566. \$37.50. ISBN 0-678-00003-4. JEL 87-0788

Addressed to financial and industrial leaders and professors and students of economics, in recognition of the expansion of credit after World War I to finance military operations, postwar reparations, reconstruction, and rebuilding of industry and trade. Recognizes the advent of inflation and the decline in real interest rates or fixed income securities. Presents an intensive analysis of the relationships between prices and interest rates. Part 1 is a general introduction, discussing income and capital, money and real interest, and some common pitfalls. Part 2 presents the theory "in words" for those with a "distaste for mathematics." Part 3 describes the theory in mathematical and statistical terms. The last part analyzes a variety of topics, such as the place of interest in the economy, the relation of discovery and invention to interest rates, personal and business loans, and relation of interest to money and prices. The late Irving Fisher was Professor of Economics at Yale University. Bibliography; index.

FRIEDMAN, BENJAMIN M., ed. *The changing roles of debt and equity in financing U.S. capital formation*. Paperback reprint. National Bureau of Economic Research Project Report series. Chicago and London: University of Chicago Press, [1962] 1987. Pp. vii, 115. Paper. ISBN 0-226-26342-8. JEL 87-0789

Paperback reprint. [See JEL no. 82-1190 for annotation and JEL, Volume 21, no. 1 (March 1983), p. 1538 for a review.]

ANON, JAMES A. AND ROCHA, ROBERTO DE REZENDE. *High interest rates, spreads, and the costs of intermediation: Two studies*. Industry and Finance Series, vol. 18. Washington, D.C.: World Bank, 1986. Pp. x, 82. \$5.00, paper. ISBN 0-8213-0835-1. JEL 87-0790

Two papers analyze the determinants of high interest rates. James A. Hanson examines the relationship between spreads and explicit taxes as well as implicit taxes on financial intermediation. Reviews the repercussions of high spreads on operating costs and profits and presents an agenda for reducing spreads. Roberto de Rezende Rocha presents a cross-country analysis of the costs of intermediation in developing countries. Investigates the determinants of banking costs and profits, including inflation and market structure, and suggests certain policy options. Hanson is Senior Financial Economist with, and Rocha is a consultant to, the Industry Department of the World Bank. No index.

ORVITZ, PAUL M. AND WARD, RICHARD A. *Monetary policy and the financial system*. Sixth edition. Englewood Cliffs, N.J.: Prentice-Hall, [1963 . . . 1983] 1987. Pp. xii, 532. ISBN 0-13-599861-1. JEL 87-0791

Revised and updated edition of a textbook for use in courses in financial markets, financial institutions, and money and banking in the United States. [For annotation of fifth edition see JEL no. 83-0398.] Uses the Federal Reserve flow-of-funds as the integrating mechanism to examine the financial system and focuses on interest rates and theory, including loanable funds and liquidity preference theories and the effects of deposit interest on interest theory. Chapters contain summaries, questions, and reading lists. Instructor's manual available. Horvitz is Judge James A. Elkins Professor of Banking and Finance at the University of Houston. Ward is Emeritus Professor of Finance and Business Economics, University of Southern California. Glossary; index.

BAL, ZUBAIR AND MIRAKHOR, ABBAS. *Islamic banking*. Occasional Paper series, no. 49. Washington, D.C.: International Monetary Fund, 1987. Pp. vi, 62. \$7.50, paper. ISBN 0-839934-82-5. JEL 87-0792

Describes certain salient features of the Islamic banking system and analyzes the experiences of the Islamic Republic of Iran and Pakistan, both of which have taken steps recently to bring their banking systems in closer accord with Islamic principles. The first section describes theoretical aspects of an Islamic banking and financial system. Describes the banking system, financial markets,

savings and investment, and central banking and monetary policy. The second and third sections present a detailed discussion of Islamic banking in Iran and Pakistan, with particular attention to bank liabilities and assets, monetary policy, banking regulation, government borrowing, and asset concentration; examine problems that have or could hinder the implementation of Islamic banking. Section 4, a summary, finds that the absence of interest does not reduce the effectiveness of monetary policy or the central banks' ability to perform their traditional roles. Appendices contain a detailed review of Islamic banking laws. Iqbal is with the Middle Eastern Department and Mirakhor is with the Research Department of the IMF. Glossary; bibliography; no index.

PRODANO, SYLVIO. *Pension funds: Investment and performance*. Gower Studies in Finance and Investment series, no. 3. Aldershot, England and Brookfield, Vt.: Gower, 1987. Pp. xiii, 166. \$50.95. ISBN 0-566-00817-3. JEL 87-0793

A study of the U.K. pension fund investments and their performance, based on secondary data sources and primary data from practicing fund managers and trustees of pension funds. Begins with a discussion of pension fund assets, their remarkable recent growth, their tax status, and asset reversion resulting from fund values exceeding liabilities. Describes fund investment policy and strategy. Notes importance of strategy because of the size of pension funds in relation to available U.K. equity. Provides a review of investments in securities, commercial and industrial property, currency, housing, agricultural land and foreign investment. Describes a variety of methods for evaluating performance with considerations for incorporating risk and uncertainty. Reviews basic portfolio analysis and discusses risk and portfolio performance. Concludes with a discussion of funding and the valuation of assets. Prodano is Director of Studies at Pembroke College, University of Cambridge. Bibliography; index.

STOLL, HANS R. AND WHALEY, ROBERT E. *Expiration day effects of index options and futures*. Monograph Series in Finance and Economics, 1986-3. New York: New York University, Graduate School of Business Administration, Salomon Brothers Center for the Study of Financial Institutions, 1986. Pp. 91. \$7.00, paper. JEL 87-0794

Examines the characteristics and uses of index futures and options and the volume of trading in these instruments. Recognizes that the effectiveness of options and futures as tools for hedging and risk management depends on a system of arbitrage price linkages to the underlying stock indices.

Describes these linkages and the arbitrage process, and the number and magnitude of arbitrage opportunities. Discusses cash settlement procedures as the potential source of expiration day price effects. Analyzes open interest in futures and stock options and volume behavior around expiration days. The effects of stock market prices associated with the expiration of options and futures is also analyzed, noting that the unwinding of arbitrage positions can cause price pressures; examines the spread between futures and cash index prices. Considers predicting expiration day price effects on the basis of past arbitrage opportunities and concludes that the process is difficult; also, the higher the degree of market predictability, the less the opportunity to make profits from the ability to predict. Notes that empirical data indicate a decline in number and magnitude of arbitrage opportunities. Stoll is Professor of Finance at the Owen Graduate School of Management, Vanderbilt University, and Whaley is Associate Professor of Finance at the Fuqua School of Business, Duke University. No index.

UNITED NATIONS DEPARTMENT OF INTERNATIONAL ECONOMIC AND SOCIAL AFFAIRS. *Savings for development: Report of the Third International Symposium on the Mobilization of Personal Savings in Developing Countries, Yaoundé, Cameroon, 10-14 December 1984*. U.N. Publication Sales No. E.85.II.A.17. New York: United Nations, 1986. Pp. viii, 114. \$14.50, paper. ISBN 92-1-104172-4. JEL 87-0795

Contains the symposium report and recommendations, a summary of the meeting of experts to prepare the symposium, and thirteen selected papers presented to the symposium. Topics of the symposium report include: interest rates and related issues and ways of enhancing the effectiveness of the framework for the mobilization of personal savings in developing countries, i.e. making the institutional financial sector more efficient, maximizing the contribution of the noninstitutional sector to the mobilization of personal savings, and strengthening the link between the sectors. Also evaluates the Integrated Programme of International Co-operation for the Mobilization of Personal Savings in Developing Countries and its future. Some of the topics of the selected papers are: the Asian experience with rural savings mobilization; insurance and development; case studies of savings for development in Peru, Cuba, Nigeria, and Jamaica; mobilization of savings in rural areas; and mobilization of personal savings through thrift and loan societies and self-help promotion institutions. Also available in French, Russian, and Spanish. No index.

See also: Book Numbers JEL 87-0660, 87-0677, 87-0706, 87-0709, 87-0735, 87-0790, 87-0793, 87-0807

330 FISCAL THEORY AND POLICY; PUBLIC FINANCE

AGELL, JONAS. *The effects of capital taxation: An equilibrium asset market approach*. Studia Oeconomica Upsaliensia series, no. 9. Uppsala, Sweden: Acta Universitatis Upsaliensis; distributed by Almqvist and Wiksell International, Stockholm, 1986. Pp. 123. Paper. ISBN 91-554-1938-0. JEL 87-0796

An analysis of the effects of capital taxation and inflation on the short-run general equilibrium of financial markets, using an asset market framework. Quantifies the parameters of the model using Swedish data for 1980 and constructs a benchmark equilibrium by employing a calibration procedure. Employs the model to simulate the effects of personal expenditure taxation, indexing the personal income tax, reforms of the corporate income tax, joint reforms of the personal and corporate income tax, and the indexation of the entire tax system on the simultaneous determination of equilibrium yields on alternative assets, the value of wealth of different classes of investors, and the incentives to invest in different production sectors. Compares the effects of these alternative tax regimes with the benchmark equilibrium. Reviews the possible impact of relaxation of some of the model's assumptions. Agell is a member of the Department of Economics, Uppsala University. No index.

BOADWAY, ROBIN W. AND MINTZ, JACK M., eds. *Policy forum on the business transfer tax*. Policy Forum series, no. 12. Kingston, Ontario: Queen's University, John Deutsch Institute for the Study of Economic Policy, 1986. Pp. iii, 72. Paper. JEL 87-0797

Eight papers from a forum sponsored by the John Deutsch Institute for the Study of Economic Policy. Evaluates the business transfer tax as an option in the reform of sales taxation in Canada and as a part of tax reform generally. The editors provide an overview of the issues surrounding the Business Transfer Tax. Glen Jenkins examines the evolution of sales tax reform in Canada and Robin Boadway discusses sales tax reform options. Jonathan Kesselman reviews the pros and cons of a business transfer tax in Canada. James Davies examines equity and efficiency aspects of such a tax. Alex Easson discusses basic considerations in designing a business transfer tax, and Jack Mintz presents issues arising from design. David Bradford provides a wrap-up to the session. Boadway and Mintz are with the Department of Economics at Queen's University. No index.

CORDRAY, DAVID S. AND LIPSEY, MARK W., eds. *Evaluation studies. Review Annual*. Volume 11. 1986. Newbury Park; London and New Delhi: Sage, 1987. Pp. 757. \$59.95. ISBN 0-8039-2569-9.

JEL 87-0798

Forty previously published papers and an introduction by the editors provide a review of the range of issues and topics that characterize the field of evaluation studies. Most of the papers were originally published in 1984 and 1985. The organizing framework distinguishes between two approaches reflected in the papers, program evaluation and program research. Six overview papers consider points of view on the history, recent developments, and critical perspectives of program evaluation and research. Seventeen papers discuss aspects of practical program evaluation such as practical utility, advice, tools, techniques, tactics, assessing benefits and costs, and qualitative inquiry. The remaining seventeen papers are program research oriented and deal with social problems and social interventions, the role of program theory, client-treatment interactions, social experimentation, and research synthesis. Cordray is Group Director, Program Evaluation and Methodology Division, U.S. General Accounting Office, Washington, D.C. Lipsey is Professor of Psychology and Chair, Psychology Department, Claremont Graduate School. No index.

GOLD, STEVEN D., ed. *Reforming state tax systems*. Denver: National Conference of State Legislatures, 1986. Pp. xiii, 352. \$20.00, paper. ISBN 1-55516-538-9.

JEL 87-0799

Nineteen papers presented at a conference sponsored by the National Conference of State Legislatures (NCSL) in Denver in October 1985. Background articles discuss recent trends and future directions of state tax policy, characteristics of a balanced and moderate state-local revenue system, and the role of research in formulating state tax policy. Part 2 addresses major concerns such as the tax burden and state tax concessions and incentives for economic development. Papers in part 3 discuss tax simplification in the context of a state tax system. Essays in part 4 examine the impact of federal tax reform on state taxes. The last part contains articles dealing with major tax sources of state revenue—personal income, general sales, business, excises, severance, death, and farms. The contributors are mainly economists, tax specialists, and government affairs experts. Gold is Director of Fiscal Studies for the National Conference of State Legislatures. Index.

LANE, JAN-ERIK, ed. *State and market: The politics of the public and the private*. SAGE Modern Politics Series, vol. 9. London; Beverly Hills and New Delhi: Sage, 1985. Pp. x, 304. \$40.00, cloth; \$16.00, paper. ISBN 0-8039-9708-6, pbk.

JEL 87-0800

Eleven papers, some presented at the European Consortium for Political Research conference in Fribourg and others written for this volume. Papers analyze the relationship between the public and private sectors, noting that the process of publicization means that citizens in the welfare state become increasingly reliant on the public budget. The papers in part 1 deal with the nature of the public sector. They examine the boundary problem of public policy and markets; public provision of goods and services; a model of a nonbudget-maximizing bureau; and economic relations between city and suburban governments. Essays in part 2 focus on public and private interaction, focusing on official, unofficial, and domestic economic resources; urban renewal, corporatism; and the housing market. Three articles in part 3 analyze the logic of public decision making. Topics are: public administration; public sector growth; and the transition of the postindustrial city. Lane is Professor of Public Administration of Umeå University. Author and subject indexes.

LEVITT, M. S., ed. *New priorities in public spending*. Joint Studies in Public Policy series, no. 13. Aldershot, England and Brookfield, Vt.: Cower, 1987. Pp. vii, 129. \$38.95. ISBN 0-566-05386-1.

JEL 87-0801

Six papers and comments presented at a conference in July 1986 organized by the U.K. National Institute of Economic and Social Research with an introduction summarizing public spending priorities by Sir Douglas Henley. Four papers consider policy areas related to public expenditure in the United Kingdom: state spending and private industry (G. White), the distributional effects on net incomes over the past two decades (Michael O'Higgins), issues pertaining to public sector pay (Chris Trinder), and the build-up of internationally determined commitments (W. J. L. Wallace). The other papers consider trends and prospects in public spending (M. S. Levitt and M. A. S. Joyce) and developments in management and control (Robin Willis). The editor is Senior Research Fellow, National Institute of Economic and Social Research, London. Index.

PICARD, LOUIS A. AND ZARISKI, RAPHAEL, eds. *Subnational politics in the 1990s: Organization, reorganization and economic development*. New York and London: Greenwood, Praeger, 1987. Pp. xi, 365. \$38.95. ISBN 0-275-98314-2.

JEL 87-0802

Thirteen papers originally presented at a symposium held at the University of Nebraska-Lincoln in November 1984 on the subject of subnational politics and the problems of intergovernmental relations in a time of scarcity. Focuses on two major themes: the concern for human participation in governmental decision making and the ability of subnational governments to cope with problems that face public-sector institutions in this time of scarcity and "cutback management." Organized into three sections: local and regional politics in federal and unitary systems (four papers), recent experiments in the reorganization of local and regional governments (five papers), the politics of development administration at the local level (four papers). Each section contains an introductory essay by the editors. Specific reference is made to systems in Canada, West Germany, Brazil, Great Britain, East Africa, and Ethiopia as well as the United States. The contributors are mainly political scientists and urban studies specialists. Picard is Associate Professor of Political Science, University of Nebraska-Lincoln. Zariski is Professor of Political Science, University of Nebraska-Lincoln. Index.

REIS, KARL EUGEN. *Fesseln für den Leviathan: Die Steuerrevolte in den Vereinigten Staaten und die Problematik budgetärer Schranken*. Reihe Wirtschaftswissenschaften, Band 32. Pfaffenweiler: Centaurus-Verlagsgesellschaft, 1987. Pp. xi, 338. Paper. ISBN 3-89085-159-2. JEL 87-0803

Text in German, with an English summary. Deals with circumstances under which a collective resistance to taxation takes place. Examines the causes that led to the U.S. tax revolt in 1978. Discusses whether such fiscal revolts are the appropriate means for expressing public preferences. Gives special attention to Proposition 13 in California, describing the factors behind this movement. Though many causes are indicated, the high and growing burden of visible levies (property tax) is presented as the main issue. Examines assumptions behind fiscal constraint. Recognizes conflicts between public preferences and special interest groups. Favors debt limitations as a technique for abolishing the negative impact of deficits, but recognizes that politicians oppose constraints as these limit their own behavior. Index.

See also: Book Numbers JEL 87-0858, 87-0867, 87-0736, 87-0803, 87-0853, 87-0860

400 International Economics

GANDOLFO, GIANCARLO. *International economics*. New York; Berlin; London and Tokyo: Springer,

1986. Pp. irregular. \$137.00. ISBN 0-387-16707-2. JEL 87-0804

Undergraduate and graduate textbook in international economics; the text is directed to undergraduate students and appendices to more advanced and graduate students. Treatment in the text is mainly confined to graphic analysis and elementary algebra and assumes a good knowledge of basic micro- and macroeconomics; treatment in the appendices is mainly mathematical and assumes a working knowledge of calculus, matrix algebra, optimization methods, and dynamic analysis for stability purposes. The first section presents the pure theory of international trade. Topics include: the classical theory of comparative costs; neoclassical theory of international trade; the Heckscher-Ohlin model; tariffs, protection, and economic integration; international trade and economic growth; refinements of the orthodox theory; and new theories of international trade. The second section addresses international monetary theory and open economy macroeconomics. Some topics are: the foreign exchange market, balance of payments and national accounts, the roles of income changes and exchange rates in the adjustment process, money and other assets under fixed and flexible exchange rates, international capital movements, fixed versus flexible exchange rates, international liquidity and international financial markets, and the problem of integration between the pure theory of international trade and international monetary economics. Gandolfo teaches international economics at the University of Rome. Bibliography; name and subject indexes.

NOSSITER, BERNARD D. *The global struggle for more: Third world conflicts with rich nations*. Twentieth Century Fund Essay series. New York; London; São Paulo and Sydney: Harper and Row, 1987. Pp. xvi, 254. \$20.00. ISBN 0-06-435851-8. JEL 87-0805

Examines issues dividing rich and poor nations. Contends that third world growth is linked closely to prosperity in the developed world. Reviews the history of lending and the return to the lenders. Traces the rising South, attempts by the IMF and other groups to alleviate the effects of the debt crisis, the attempt to develop laws relating to mineral and fishing rights in the sea, and the nature of aid programs. Analyzes measures to ease the debt crisis. Concludes that strong Northern growth will solve many of the South's problems, especially low commodity prices and demand. Nossiter is a journalist trained in economics. Index.

SALVATORE, DOMINICK. *International economics*. Second edition. New York: Macmillan; London: Col-

lier Macmillan, [1983] 1987. Pp. xxviii, 611. ISBN 0-02-405360-0. JEL 87-0806

Second edition of an introductory textbook on the theory and principles of international economics. Designed for use in both undergraduate and graduate courses. New topics include: the specific-factors model, growth with factor immobility, trade in differentiated products, the rise of trade protectionism, the international debt, exchange-rate dynamics, exchange-rate futures and options, efficiency of the foreign exchange markets, the Eurobond and Euronote markets, and the portfolio balance approach. Each chapter contains a summary, glossary, readings and questions, and problems. Contains answers to selected problems. Instructor's manual available. [For annotation of previous edition see JEL no. 83-0415.] Salvatore is Chairman and Professor, Department of Economics, Fordham University. Glossary, name, and subject indexes.

TREMBLAY, RODRIGUE, ed. *Issues in North American trade and finance: Fourth International Congress. Papers and Proceedings*, vol. 4, no. 1. Montreal: North American Economics and Finance Association, 1987. Pp. xiv, 633. Paper. ISBN 2-920857-99-1. JEL 87-0807

Thirty-nine papers presented at the Fourth International Congress of the North American Economics and Finance Association in July 1986 at the University of Montreal consider important issues pertaining to the economics of Canada, Mexico, and the United States. General topic areas are: international indebtedness (eleven papers), money and foreign exchange (eight papers), banking and financial markets (five papers), trade and competitiveness (eleven papers), and corporate finance and management (four papers). Authors are economists, agency representatives, financial executives, and other financial specialists. The editor is at the University of Montreal. Index.

VISSEER, HANS AND SCHIKORL, EVERT, eds. *Trade in transit: World trade and world economy—Past, present and future*. Hingham, Mass.; Dordrecht and Lancaster: Kluwer Academic, 1987. Pp. xvii, 338. \$47.50. ISBN 90-247-3305-7. JEL 87-0808

Papers presented at the World Trade Conference 1985, held on 4-6 September, organized by the World Trade Center Amsterdam, the University of Amsterdam, and the Free University of Amsterdam on the occasion of the opening of the Trade Center. Twenty-six papers are divided into six parts as follows: (1) historical, with papers dealing with the classical and Marxian view of peace and trade; (2) the global view, including essays on the

financial conditions for sustaining recovery, lessons from the past about world trade and international finance, the influence of international capital flows on world trade, high-tech and the changing shape of world trade, long-term issues in international equilibrium, and trends in world protectionism; (3) U.S. policy and the dollar, describing the U.S. economy in transition, the role of U.S. domestic economic and financial policy in the world economy, exchange stability, and surveillance over exchange rate policies; (4) groups of countries, concerned with North-South relations, countertrade, barter, East-West trade, the EMS and trade, the viability of the ECU, and the Pacific Basin; (5) business firms on the world market, with papers on the past and future of the trading company and success factors for the development of international trading; and (6) special topics, covering the role of the consumer in world trade, export financing from a Keynesian view, and international trade and the resurgence of Islam. Contributors are economists, bankers and businessmen. Visser is Professor of Money and Banking and International Economics at the Free University in Amsterdam. Schoorl is Senior Lecturer in Economics at the University of Amsterdam. No index.

See also: Book Number JEL 87-0882

410 INTERNATIONAL TRADE THEORY

CHICHILNISKY, GRACIELA AND HEAL, GEOFFREY. *The evolving international economy*. Cambridge, New York and Melbourne: Cambridge University Press, 1986. Pp. viii, 156. \$29.95. ISBN 0-521-26716-1. JEL 87-0809

Focuses on the main issues of trade and development and the attainment of major development goals generally espoused by the international community, i.e., rapid development in the third world, sustained economic expansion in the industrial countries, and the eradication of deep inequalities and extreme poverty. Traces the way markets respond to policies, both at the domestic and international levels. Main topics include: the recurrence of recession, the persistence and severity of unemployment in many industrial countries, and the emergence of protectionism and managed trade; the emergence of new technologies that lead to structural changes in domestic and international markets and challenge existing institutional arrangements and trading patterns; the changing international environment facing the developing countries, and especially issues of international debt, export strategies, and North-South trade in armaments; the pricing of exhaustible resources, including oil; and perceived limitations of existing international financial institutions and the impact

of declining transfers of wealth from industrial to developing countries. The last part of the book presents economic models and arguments to substantiate the previous discussion. The first version of the book was used in the preparation of material for UNCTAD VI. Chichilnisky and Heal are Professors of Economics, Columbia University. No index.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION. *International comparative advantage in manufacturing: Changing profiles of resources and trade*. UNIDO Publication Sales No. E.85.II.B.9. Vienna: Author, 1986. Pp. xii, 226. \$17.00, paper. ISBN 92-1-106210-1. JEL 87-0810

Based on the premise that international comparative advantage is an important determinant of production and trade in manufacturing, clarifies policy issues relating to world trade and industrial restructuring. Based on data for all manufacturing activities in a wide range of countries between the early 1960s and early 1980s. Focuses on a statistical description, an empirical analysis, and a policy-relevant interpretation of structures and trends. Annexes present data on patterns of revealed comparative advantage and their changes for a wide range of products for forty-one countries between 1970-72 and 1981-83, showing both exports and imports and revealed comparative advantage. Analysis focuses on the relationship between comparative advantage and resource endowment and changes in patterns of international competitiveness with reference to product cycle dynamics of international trade and sequential stages of comparative advantage in a country's economic development. No index.

See also: Book Numbers JEL 87-0727, 87-0737

420 TRADE RELATIONS; COMMERCIAL POLICY; INTERNATIONAL ECONOMIC INTEGRATION

CONNOLLY, MICHAEL AND GONZÁLEZ-VEGA, CLAUDIO, eds. *Economic reform and stabilization in Latin America*. New York and London: Greenwood Press, Praeger, 1987. Pp. xxiii, 348. \$47.50. ISBN 0-275-92307-X. JEL 87-0811

Seventeen papers resulting from the Second Dominican Republic Conference on Trade and Financial Liberalization in Latin America held in Santo Domingo in March 1985. Papers analyze the historical record of economic liberalization experiments in Latin America and the Caribbean. Three papers focus on the theory behind such experiments. Two papers consider the order of trade and financial liberalization. Five papers discuss the appropriate exchange rate regime with reference to Chile and Mexico, the economics of the Dominican Republic,

and the liberalization experience of Chile and Uruguay. Three papers examine the impact of trade liberalization and preferential agreements on U.S. imports, financial reform with a flexible exchange rate, and the interest rates, transactions costs, and financial savings associated with financial liberalization. The final two papers consider employment in a financially suppressed economy and government revenue from money creation in Latin America, 1977-81. The contributors are mainly economists. Connolly is Professor of Economics, University of South Carolina. González-Vega is Professor of Economics and Agricultural Economics, Ohio State University. No index.

ECONOMIC COMMISSION FOR LATIN AMERICA CONFERENCE (ECLAC). *Trade relations between Brazil and the United States*. With the collaboration of SIDNEY WEINTRAUB. Estudios e Informes de la CEPAL, no. 52. Santiago, Chile: United Nations with the cooperation of the Institute for Economic and Social Planning (IPEA), Brasília, 1985. Pp. 154. \$6.00, paper. ISBN 92-1-121123-9. JEL 87-0812

Analysis of commercial relations between Brazil and the United States. Reviews trends in U.S. trade policy in recent years, the role of different government agencies, and the impact on trade policy of conflicting demands for free trade and protectionism. Examines recent trends in Brazil's trade policy and highlights the main elements of its export promotion program. Discusses the form and content of trade between Brazil and the United States. Outlines the General System of Preferences employed by the U.S. and the various forms of import restrictions facing Brazil. Analyzes the sources of tension in U.S.-Brazil trade relations and presents recommendations for resolving trade conflict. Bibliography; no index.

FINDLAY, CHRISTOPHER AND GARNAUT, ROSS, eds. *The political economy of manufacturing protection: Experiences of ASEAN and Australia*. Sydney; London and Boston: Allen and Unwin, 1986. Pp. xxiii, 299. Paper. ISBN 0-04-330378-1. JEL 87-0813

Eleven papers, sponsored by the ASEAN-Australia Economic Relations Research Project, present new material on a range of matters related to protection in Australia and the ASEAN countries, with major focus on the extent and structure of manufacturing protection. Several papers examine the historical and statistical materials to determine why protective sentiment persists and analyze recent attempts at trade liberalization. Others review effects of protection on ASEAN-Australia trade in manufacturing. The first six papers are devoted

to a description of the origin, rationale, and current structure of protection in Indonesia, the Philippines, Thailand, Malaysia, Singapore, and Australia. Other topics are: a general equilibrium analysis of the effects of protection on the region as a whole; analysis of the effects of import quotas and voluntary export restraints, including licensing; the effects of Australian protection on imports from ASEAN; and how protection came about, why it persists, and how trade can be liberalized to promote economic growth. The contributors are mainly economists. Findlay is with the Economics Department, University of Adelaide. Garnaut is a member of the Economics Department, Research School of Pacific Studies, Australian National University. Bibliography; index.

GHANEM, SHUKRI. *OPEC: The rise and fall of an exclusive club*. London; New York and Sydney: KPI; distributed by Methuen Inc., Routledge and Kegan Paul, N.Y., 1986. Pp. x, 233. \$59.95. ISBN 07103-0175-8. JEL 87-0814

A history of the rise and fall from power of OPEC. Reviews the nature of the world oil industry before the formation of OPEC, the pattern of price setting, and the first Arab petroleum congress. Describes the birth of OPEC, and its membership and members. Reviews the objectives of OPEC during its first decade, 1960-70; the policies employed to increase the price of, and income from, oil, and the nature of participation and solidarity during this period. Analyzes in detail the years of change and the ascendance to power during OPEC's second decade. A final section discusses the reasons for and process of decline of OPEC power. Ghanem is Chief Economist at the National Academy of Scientific Research, Tripoli, Libya. Index.

KRAUS, WILLY AND LÜTKENHORST, WILFRIED. *The economic development of the Pacific Basin: Growth dynamics, trade relations and emerging cooperation*. New York: St. Martin's Press; London: Hurst, 1986. Pp. x, 180. \$32.50. ISBN 0-312-00453-4. JEL 87-0815

An analysis of economic development and cooperation in the Pacific Basin countries. Examines the present crisis in global trade policy and the possibility of reforming GATT. Discusses the basic trade policy issues among the Pacific developing countries and Japan in terms of the import restriction and export promotion measures adopted by Southeast Asian countries and the controversy regarding Japan's trade policy. Analyzes various concepts of institutionalized economic cooperation in the world economy and the Pacific Basin, reviews the nature of economic interdependence among

countries in this region, and outlines the views of the U.S. and ASEAN countries regarding increased cooperation. Kraus is Professor Emeritus and associated with the Institute for Development Research and Development Policy at the Ruhr University, Bochum, West Germany. Lütkenhorst is associated with the United Nations Industrial Development Organization in Vienna. Bibliography; index.

LEYTON-BROWN, DAVID, ed. *The utility of international economic sanctions*. New York: St. Martin's Press, 1987. Pp. 320. \$32.50. ISBN 0-312-00369-2. JEL 87-0816

Fifteen papers originally presented at a conference on the utility of economic sanctions as a policy instrument at York University in Toronto in March 1983. The papers systematically and comparatively analyze major cases of the imposition of international economic sanctions in peace-time conflict situations in the post-World War II years. Part 1 (two papers) examines the application of sanctions by the League of Nations and the United Nations as well as U.N. sanctions against South Africa and Rhodesia. Part 2 (four papers) discusses Western economic sanctions in East-West conflicts. Part 3 (two papers) considers the Arab boycott of Israel and the 1973 Arab oil embargo of the United States. Part 4 (two papers) examines the consequences of the initiators of the 1980-81 grain embargo of the U.S.S.R. and of the Siberian gas pipeline sanctions in 1981-82. Part 5 (three papers) investigates the impact of economic sanctions on third parties and part 6 (two papers) draws conclusions about the use of sanctions and offers policy prescriptions for their effective design and implementation. The contributors are mainly political scientists. Leyton-Brown is Associate Professor of Political Science and Associate Director of the Research Programme in Strategic Studies, York University, Toronto. Subject index.

McMILLAN, CARL H. *Multinationals from the second world: Growth of foreign investment by Soviet and East European enterprises*. New York: St. Martin's Press for the Trade Policy Research Centre, London, 1987. Pp. xvi, 290. \$29.95. ISBN 0-312-53253-X. JEL 87-0817

Analysis of foreign direct investment from the Council for Mutual Economic Assistance (Comecon) countries. Examines whether Comecon-based enterprises were responding to similar stimuli in a manner analogous to other multinational enterprises, and examines the role of foreign direct investment in the development of the economic policy of Comecon countries. Outlines the policy context within which foreign investment activities

have been pursued in Comecon countries and the trends and patterns of direct foreign investment. Examines the motivation for, and process of, direct foreign investment in different Comecon countries. Analyzes the nature and experience of investments in the service sector, in production facilities, and in four developed and developing countries. Concludes by noting certain recent trends, issues, and prospects. McMillan is Professor of Economics at Carleton University, Ottawa. Glossary; bibliography; company and subject indexes.

STERN, ROBERT M., ed. *U.S. trade policies in a changing world economy*. Cambridge, Mass. and London: MIT Press, 1987. Pp. 437. \$25.00. ISBN 0-262-19253-5. JEL 87-0818

Nine essays and comments originating at a conference on international trade and trade policies at the University of Michigan. Focus is on trade policy in a world undergoing serious structural changes and witnessing a growing increase in the U.S. trade deficit. Topics of the papers are: an overview of current issues in trade policy; analysis of the macro- and microeconomic setting in which U.S. trade policy has taken place; a model of endogenous protection to help search for the variables that could explain protectionist sentiment in the United States since 1900; strategic sectors and international competition; the U.S. response to trade policies of other countries, emphasizing effects on U.S. national income and security; trade policy as foreign policy since 1785; the national defense argument on behalf of protectionism; multilateral and bilateral negotiating approaches for the conduct of U.S. trade, policies; and a set of rules that may be desirable to set the parameters for trade policies. The contributors are economists. Stern is Professor of Economics and Public Policy at the University of Michigan. Subject and name indexes.

TUSSIE, DIANA. *The less developed countries and the world trading system: A challenge to the GATT*. Studies in International Political Economy series. New York: St. Martin's Press, 1987. Pp. viii, 162. \$29.95. ISBN 0-312-48158-6. JEL 87-0819

Examines the manner in which less developed countries (LDCs) have reacted to the world trading order as reflected in the General Agreement on Tariffs and Trade (GATT). Reviews the origins and history of GATT; outlines the challenges mounted by LDCs against their exclusion from world trade and the reform of GATT; and analyzes the main developments in the structure of international trade since World War II in order to highlight their effect on the position of LDCs in GATT. Ex-

fibre agreement and the performance of attempts at regional economic integration in Latin America. Concludes that while the GATT provided legitimacy and confidence, it is not responsible for the LDC's unsatisfactory performance or growth in trade. Tussie is Chief of the Foreign Trade Department at the Planning Secretariat in Argentina. Bibliography; index.

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT. *Current problems of economic integration: The problems of promoting and financing integration projects*. U.N. Sales No. E.86.II.D.1. New York: United Nations, 1986. Pp. viii, 115. \$13.50, paper. ISBN 92-1-112216-3. JEL 87-0820

Part 1 contains the report of the meeting of secretariats of economic cooperation and integration groupings of developing countries and multilateral development finance institutions in Geneva in June 1984 to examine the problems of promoting and financing integration projects. Its recommendations pertain to preinvestment funds for integration projects and their promotion, financing of such projects, and guarantee requirements. Part 2 consists of a paper by H. T. Adams, an UNCTAD consultant, on the evolution of the problem of guaranteeing loans for integration projects of developing countries; it examines statutory requirements, the scope and usefulness of state guarantees, guarantees and the multilateral institutions of industrialized countries, and developments within multilateral development institutions and includes a sample loan agreement. Part 3 is a paper by the UNCTAD Secretariat on recent issues and meetings related to the promotion and financing of integration projects of developing countries; it reviews existing integration projects of economic cooperation and integration groupings and discusses project identification and promotion, financial resources, terms and conditions of financing projects, and coordination and mobilization of international support. Also available in French, Russian, and Spanish. No index.

UNITED NATIONS DEPARTMENT OF INTERNATIONAL ECONOMIC AND SOCIAL AFFAIRS, STATISTICAL OFFICE. *Classification by broad economic categories: Defined in terms of SITC, Rev. 3*. Statistical Papers, Series M, no. 53, Rev. 2. U.N. Publication Sales No. E.86.XVII.24. New York: United Nations, 1986. Pp. x, 68. \$9.50, paper. ISBN 92-1-161276-4. JEL 87-0821

Presents a classification of national and external trade statistics based on the main end-use of commodities traded internationally, which can be gen-

of National Accounts, i.e., capital, intermediate, and consumer goods. The classification is based on the following broad economic categories (BEC): food and beverages (primary and processed); industrial supplies not elsewhere specified (primary and processed); fuels and lubricants (primary and processed); capital goods (except transport equipment), and parts and accessories; transport equipment and parts and accessories; consumer goods not elsewhere specified (durable, semi-durable, and nondurable); and goods not elsewhere specified. Also available in French, Russian, and Spanish. No index.

UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE. *Bulletin of statistics on world trade in engineering products, 1984*. U. N. Publication Sales no. E/F/R.86.II.E.10. New York: United Nations, 1986. Pp. 407. \$38.00, paper. ISBN 92-1-016193-9.

JEL 87-0822

Examines the flow of engineering products in world trade. Commodity distribution for most countries is based on the Standard International Trade Classification, Revision 2. Engineering products are defined to include machinery and transport equipment; manufactures of metals; professional, scientific, and controlling instruments and apparatus; photographic apparatus and optical goods; and watches and clocks. Data cover exports of thirty-six countries, representing approximately 98 percent of the world trade in these commodities. Statistics are compiled from replies to questionnaires supplied by various countries and from official national sources. Most data are for 1984, with summary tables going back to 1963. Data are expressed in millions of current U.S. dollars in a f.o.b. basis. Table of contents, explanatory notes, country and commodity lists, and table notes are in English, French, and Russian. No index.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION. *Regional industrial co-operation: Experiences and perspectives of ASEAN and the Andean pact*. UNIDO Publication Sales No. E.85.II.B.5. Vienna: Author, 1986. Pp. xi, 102. Paper. ISBN 92-1-106304-7.

JEL 87-0833

Consolidates the major findings of a series of studies and of the Association of South-East Asian Nations/Andean Pact Conference Study Tour on Regional Industrial Co-operation. Argues that the net benefits of regional economic cooperation or integration schemes among developing countries no longer can be analyzed within the neoclassical economic framework, but should be understood in a broader institutional context. Proposes that industrial cooperation is the key to the continuing growth of intraregional trade and to a region's suc-

cess in its overall industrialization effort. Examines industrial cooperation within the Association of South-East Asian Nations, focusing on trade and industrial development, industrialization strategies, techniques of economic cooperation, trade liberalization and cooperation in practice. Reviews Andean Pact industrial cooperation, discussing the objectives and framework of the Pact, industrial development, common external tariffs, trade liberalization, industrial programs, foreign investment policy, financial and technological cooperation, and integration. Provides a prospective analysis on selected issues, including obstacles to regional cooperation, treatment of less developed member countries, the roles of foreign investment and the private sector, and extraregional cooperation. Concludes with proposals for action and future research. No index.

WINBERG, ALAN R. *Managing risk and uncertainty in international trade: Canada's natural gas exports*. Boulder, Colo. and London: Westview Press, 1987. Pp. xv, 288. \$29.95, paper. ISBN 0-8133-7150-3.

JEL 87-0824

Analysis of Canada's natural gas exports as part of a study of the management of risk and uncertainty in international trade in raw materials. Outlines trends in natural gas exports and the development of Canada's natural gas industry. Reviews Canada's natural gas export policy and evaluates it in light of its objectives and of dependency theories of economic development. Examines the role of uncertainty in the policy-making process as well as the impact of substitutes on the price of natural gas and the overall demand for energy. Delineates the role of the National Energy Board, trends in export prices, policies for protection of domestic requirements for natural gas, and outlines certain alternative regulatory mechanisms. Winberg is Assistant Director of the Program Evaluation Division of the Department of Consumer and Corporate Affairs of the government of Canada. Bibliography; index.

WONNACOTT, PAUL. *The United States and Canada: The quest for free trade, an examination of selected issues*. With an appendix by JOHN WILLIAMSON. Policy Analyses in International Economics series, no. 16. Washington, D.C.: Institute for International Economics, 1987. Pp. xii, 173. \$10.00, paper. ISBN 0-88132-056-0.

JEL 87-0825

Argues that bilateral free trade would confer substantial economic benefits to both the United States and Canada, contributing to their efficiency and international competitiveness. Presents data depicting the dollar value of U.S.-Canadian trade and its present status and possible future poten-

tials. Discusses the various negotiation topics—tariffs, nontariff barriers, trade remedy laws, services, investment, and exchange rates. Analyzes the sources of gain, intra- and interindustry adjustment, and effects of bilateral free trade on the United States. Reviews the nature of opposition and why certain issues will not die. Explains why trade remedy laws are an area where agreement may be difficult. Suggests possible coverage of a free trade accord. Williamson's appendix discusses fundamental equilibrium exchange rates. Wonnacott is Professor of Economics at the University of Maryland. No index.

See also: Book Numbers JEL 87-0715, 87-0809, 87-0815, 87-0851, 87-0880

430 OPEN ECONOMY MACROECONOMICS; EXCHANGE RATES; INTERNATIONAL FINANCE

ALIBER, ROBERT Z., ed. *The reconstruction of international monetary arrangements*. New York: St. Martin's Press, 1987. Pp. vii, 330. \$32.50. ISBN 0-312-66590-3. JEL 87-0826

Fourteen conference papers and an introduction by the editor assess current international monetary arrangements and consider some of the alternatives. Papers focus on options to the system of floating exchange rates and the adequacy of international reserves and lender-of-last-resort arrangements in the international system. Five papers examine recent experiences—past plans and the optimality of the evolving international monetary system, unexpected real consequences of floating exchange rates, a more orderly exchange-rate system, the wage and price adjustment process in six large OECD countries, and the arguments for fixed or flexible exchange rates or a mixture of the two systems. Nine papers consider topics related to international reserves and money, including: an internationally managed money supply, changing perceptions of money and reserves in the world economy, gold as a viable basis for the monetary system, options for gold, gold monetization and discipline, the management of the currency composition of reserve assets and external liabilities of developing countries, the theory of lender of last resort and the Eurocurrency markets, and the endogeneity of international liquidity. The contributors are mainly economists. Aliber is Professor of International Economics and Finance, University of Chicago. Index.

ARTIS, MICHAEL AND OSTRY, SYLVIA. *International economic policy coordination*. Chatham House Papers series, no. 30. London and New York: Routledge and Kegan Paul, 1986. Pp. 89. \$10.95, paper. ISBN 0-7102-0809-8. JEL 87-0827

Examines international economic interdependence and the case for greater international economic policy coordination. Discusses the nature of linkages between economies and arguments for, as well as obstacles and qualifications of, greater policy coordination. Recounts the history of the construction, functioning, and collapse of the institutions of Bretton Woods. Considers the experience of the floating exchange-rate era beginning in the early 1970s and the promptings its deficiencies have provided for more coordinated policy. Reviews the recent record of the summits and the nature of the Group of Five initiatives and concludes that a realistic way to closer cooperation exists through a combination of the summit, a framework of national money-income targeting, and policy responses conditioned on exchange-rate promptings. Artis is Professor of Economics, University of Manchester. Ostry is ambassador for multilateral trade negotiations and personal representative of the Prime Minister of Canada for the economic summit. No index.

BHANDARI, JAGDEEP S. *Studies in international macroeconomics*. New York and London: Greenwood Press, Praeger, 1987. Pp. vi, 273. \$49.95. ISBN 0-275-92087-9. JEL 87-0828

Uses a model-building approach to study selected policy-related problems in open economies and illustrates issues of international macroeconomics. The models are discrete-time models that rely on equilibrium methods and the rational expectations hypothesis. Issues examined include: wage contracting and exchange-rate management, i.e., wage indexation-exchange intervention policy; the effect of externally occurring input price disturbances on oil-importing economies; finite (imperfect) capital mobility and the stability of a small open economy; the relationship between the economic size of a country and its degree of vulnerability to externally occurring disturbances; implications of alternative informational regimes for the transmission properties of various structural disturbances and for the selection of an optimal exchange-rate policy stance; macroeconomic determinants of a flexible-exchange currency composite policy; two-tier exchange-rate regimes; and the effects of leakage between commercial and financial exchange markets on the properties of dual exchange-rate models as well as export versus import leakage. Bhandari is Associate Professor of International Economics, West Virginia University. Index.

BIRD, GRAHAM. *International financial policy and economic development: A disaggregated approach*. New York: St. Martin's Press, 1987. Pp. xvi, 348. \$37.50. ISBN 0-312-42213-X. JEL 87-0829

Focuses on the international problems of developing countries and the ways in which international financial policy might be used to help alleviate them. Identifies and analyzes some of the principal issues involved in discussing international financial policy from the standpoint of the developing world related to the IMF's relationship with the developing world. Examines the extent to which it is legitimate to treat LDCs as a special case and presents a historical and empirical picture of their position. Covers questions of IMF conditionality, lending facilities, interest rate subsidies, financing of its activities, and the problem of commodity price stabilization. Discusses the SDR facility and ways in which this might be modified to the advantage of LDCs as well as questions of more relevance to NICs, i.e., aspects of private lending. General conclusions are that the scope for reform that does not rely on the compliance of the North is limited, that there is considerable scope for reform that would be beneficial to the developing world in terms of relaxing its balance-of-payments constraints, and that many developing countries can make a strong case that they warrant special treatment. Bird is Senior Lecturer and Course Director in Economics, University of Surrey. Index.

COOPER, RICHARD N. *The international monetary system: Essays in world economics*. Cambridge, Mass. and London: MIT Press, 1987. Pp. xvii, 286. \$27.50. ISBN 0-262-03124-8. JEL 87-0830

Thirteen papers, most previously published, discuss issues relevant to the international monetary system. One paper surveys possible types of international monetary regimes, while three others evaluate different monetary systems: the gold standard, a system with gliding parities, and flexible exchange rates. Papers discuss alternative mechanisms of adjustment to disturbances in the system of international payments, IMF supervision of floating exchange rates, and the role of national currencies in the international monetary system, with special reference to the U.S. dollar. Other essays examine the future role of the SDR, evaluate the international monetary system during the 1980s, and assess the possibility of the evolution of the IMF into a world central bank. Cooper is Maurits C. Boas Professor of International Economy at Harvard University. Subject and name indexes.

CRCKETT, ANDREW AND GOLDSTEIN, MORRIS. *Strengthening the international monetary system: Exchange rates, surveillance, and objective indicators*. Occasional Paper series, no. 50. Washington, D.C.: International Monetary Fund, 1987. Pp. vii,

84. \$7.50, paper. ISBN 0-639934-76-0.

JEL 87-0831

Discusses issues arising out of reports on the international monetary system prepared in 1985 by the Group of Ten and the intergovernmental Group of Twenty-Four on International Monetary Affairs. Presents a review and assessment of floating exchange rates. Identifies and discusses issues and proposals for improving the functioning of the system, reviewing both areas of agreement and contention. Suggests improving exchange rate stability through better discipline and coordination of macroeconomic policies among the major nations, establishment of target zones for exchange rates, and strengthening the existing system. Discusses surveillance over exchange-rate policies. Reviews indicators of policies and economic performance to give quantitative content to governments' economic aims and achievements, thereby improving judgment as to the reality of objectives. Crockett and Goldstein are with the IMF. No index.

DEHOVE, MARIO AND MATHIS, JEAN. *Le système monétaire international (The international monetary system)*. Sciences économiques. Paris: Dunod; distributed in North America by Diffulivre, Montreal, 1986. Pp. 272. Fr 165.00; Can\$ 32.50, paper. ISBN 2-04-016523-1. JEL 87-0832

The authors propose a general introduction to the principles and the practice of the postwar international monetary system. Following the first two chapters on the theoretical and institutional aspects, the remaining four chapters depict a chronological analysis of the main events and their implications for different classes of nations, particularly in the third world. Dehove is a researcher at the I.R.E.S. (Paris) and Mathis is a professor at Paris-XIII. The study was sponsored by the Institut de Recherches Economiques et Sociales. Bibliography: no index. [Jean Mirucki]

HALLWOOD, PAUL AND MACDONALD, RONALD. *International money: Theory, evidence and institutions*. With contributions from ROBERT SHAW. Oxford and New York: Blackwell, 1986. Pp. viii, 279. \$49.95, cloth; \$19.95, paper. ISBN 0-631-14446-3, pbk. JEL 87-0833

An introductory textbook on international monetary economics. Outlines the traditional theory of exchange-rate determination and discusses the problems of macroeconomic management in an open economy. Reviews the theory and evidence on purchasing power parity and presents an alternative monetary approach to the balance of payments. Examines the concepts of the exchange rate as an asset price and assesses the policy implications of such views. Analyzes the portfolio balance

approach to exchange-rate determination and reviews the evidence for the efficient markets hypothesis in the determination of spot and forward exchange rates. Discusses certain recent international monetary arrangements, the Eurocurrency system, the role of the IMF in the third world, the nature and problems of international debt, and the European Monetary System. Hallwood is Senior Lecturer and MacDonald is Lecturer in the Department of Political Economy at the University of Aberdeen. Index.

- HORII, AKINARI. *The evolution of reserve currency diversification*. BIS Economic Papers series, no. 18. Basle: Bank for International Settlements, Monetary and Economic Department, 1986. Pp. 62. Paper. JEL 87-0834

Analyzes trends in reserve currency diversification and international trade since the early 1970s through the end of 1984 in the United States, West Germany, Japan, the other industrial countries, the oil-exporting developing countries, and the non-oil exporting countries. Examines exchange-rate arrangements, floating exchange rates, portfolio management, transactions balances, liquidity, and inertia. A principal finding is that reserve diversification has been limited by the extent to which reserves are held as transactions balances. Concludes that the future course of reserve diversification will depend not only on the relative performance of reserve currencies on the exchange markets but also on the liquidity features of these currencies and the level of international reserves in relation to reserve needs. Bibliography; no index.

- INTERNATIONAL MONETARY FUND. *Balance of payments statistics*. Volume 37. Yearbook, Parts 1 and 2. Washington, D.C.: Author, 1986. Pp. 756; xiii, 131. \$12.00, paper. ISSN 0252-3035. JEL 87-0835

Two-part annual yearbook containing available balance-of-payments statistics for 142 countries from 1978 through 1985; compiled in accordance with the International Monetary Fund's 1977 Balance of Payments Manual and based mainly on reports sent to the fund by member countries. Part 1 contains country sections composed of aggregated presentations of yearly and recent quarterly transactions data and detailed presentations of yearly transactions and stock data. Part 2 aggregates the data according to balance-of-payments categories for individual countries, country groups, and all countries. Data are available on computer tape. The introductory information is also presented in French and Spanish. [For annotation of volume 35 see JEL no. 85-0484.] No index.

- INTERNATIONAL MONETARY FUND, RESEARCH AND TREASURER'S DEPARTMENT. *The role of the SDR in the international monetary system: Studies by the Research and Treasurer's Departments of the International Monetary Fund*. Occasional Paper series, no. 51. Washington, D.C.: International Monetary Fund, 1987. Pp. vii, 82. \$7.50, paper. ISBN 0-839934-81-7. JEL 87-0836

A review of the role of the Special Drawing Right (SDR) in the international monetary system and changes in the role of the SDR, providing a comparative analysis of the SDR and European Currency Unit (ECU) through 1986. Part 1 sketches the implications of changes in the international monetary system for the role of the SDR, discussing the shortcomings of the gold exchange standard, asymmetries in reserve creation, the contributions of the SDR, insufficient liquidity, failing confidence in the gold convertibility of the principal reserve currency, and views on the role of the SDR. Also examines whether there is a potential role for the SDR in the evolving international monetary system and the possible extension in the stability role of the SDR. Part 2 consists of a comparative analysis of the characteristics and functioning of the ECU and SDR in both official and private circles with reference to unit of account, valuation, supply, demand, and distributional effects. Two appendices give details about the structure and nature of the ECUs and SDRs. Bibliography; no index.

- LOONEY, ROBERT E. *The Jamaican economy in the 1980s: Economic decline and structural adjustment*. Westview Special Studies on Latin America and the Caribbean. Boulder, Colo.: Westview, 1987. Pp. xiii, 257. \$22.50, paper. ISBN 0-8133-7055-8. JEL 87-0837

Provides a quantitative assessment of the main internal and external causes of deterioration in the Jamaican economy since 1972 and assesses the prospects for returning to a period of stable growth under an IMF stabilization program. Examines factors leading to the deterioration of the balance of payments on current account and questions whether the Jamaican economy is a prototype for application of IMF stabilization packages. Assesses whether the application of the small open country model is appropriate in the case of Jamaica, given information on the macroeconomic consequences of the size and typologies of other developing countries. Develops a macroeconomic model to determine the extent to which economic performance could have been improved in the 1970s through alternative policy packages. Also considers the current government's structural adjustment program and potential impact of the Caribbean Basin Initia-

tive. Concludes that both internal and external factors caused Jamaica's economic decline, that the government's supply-side policies are basically correct, and that the size of the public sector should be reduced. Looney is Associate Professor of National Security Affairs, U.S. Naval Postgraduate School, Monterey. No index.

MANOULIS, DIMITRIS. *Economic development and the structure of the balance of payments: The case of Greece*. Centre of Planning and Economic Research Studies series, no. 18. Athens: Centre of Planning and Economic Research, 1986. Pp. 267. Paper. JEL 87-0838

Argues that financial transfers from abroad have important structural effects for the domestic economy of a small, open economy such as Greece and that institutional and organizational bottlenecks affect the cost of adjustment and the optimal savings and investment functions. Analyzes the effects of institutional and organizational constraints faced by developing countries on their processes of savings and investment. Examines possible stages of the balance of payments of a developing country and the optimal amounts of international borrowing or lending. Describes the Greek economy and the effects of economic policy, a monetary model of financial transfers to a developing country, and the case of tourism as an example of a booming sector and structural problems. The dynamic analysis examines the demand for investment and the supply of savings in a developing economy, the structure of the balance of payments, and the optimal current account balance. Ph.D. dissertation granted by the University of Essex (1984). Manoulis is Research Associate at the Centre of Planning and Economic Research. No index.

UNGERER, HORST, ET AL. *The European monetary system: Recent developments*. IMF Occasional Paper series, no. 48. Washington, D.C.: International Monetary Fund, 1986. Pp. vii, 75. \$7.50, paper. ISBN 0-839634-79-5. JEL 87-0839

Reviews developments in the European Monetary System (EMS) from the beginning of 1983 to August 1986. Complements and updates an earlier paper by the same authors (IMF Occasional Paper, no. 19, 1983). Discusses membership in the EMS and changes in its operation and institutional design. Summarizes exchange-rate developments, analyzes the variability of exchange rates in the EMS from 1979 to 1985, and compares it with earlier periods and with the experience outside the EMS. Examines price, monetary, fiscal, external current account, and real sector developments in ERM (exchange rate mechanism) and other industrial countries to determine whether the intro-

duction of EMS has been followed by improved economic convergence among countries participating in the ERM of the EMS. Finds that recent improvement in convergence in inflation rates and monetary policies has not been backed by corresponding progress in other developments, especially fiscal deficits. Appendices contain statistical information and legal texts concerning the EMS. Coauthors are: Owen Evans, Thomas Mayer, and Philip Young. The authors are in the European Department, International Monetary Fund, Washington, D.C. Selective bibliography; no index.

WACHTEL, HOWARD M. *The money mandarins: The making of a new supranational economic order*. New York: Pantheon Books, 1986. Pp. xvi, 254. \$18.95. ISBN 0-394-54299-1. JEL 87-0840

Discusses relationships between post-World War II political-economic changes in the United States and the emergence of a new supranational economy based on a "world of stateless money" run by private and public money mandarins. Considers supranationalism, the retreat from the liberal consensus, global economic interdependence, the conservative restoration, antecedents to the supranational economy, the end of Bretton Woods, and the information and communications revolution; proposes a public policy for a supranational order. Advocates the establishment of a new public debt authority for debtor nations with funds borrowed from the Eurodollar market, imposition of a cost on totalitarianism in international trade, discouragement of mergers and acquisitions that divert financial resources from productive capital investment projects, a transnational economic policy coordination of exchange and interest rates, and the reconstruction of a political economy that restores equilibrium between the private pursuit of personal gain in the market and the promotion of the common good through government. Wachtel is Professor of Economics, American University. Index.

WILLIAMSON, JOHN. *Political economy and international money: Selected essays of John Williamson*. Edited by CHRIS MILNER. New York: New York University Press; distributed by Columbia University Press, 1987. Pp. xii, 292. \$45.00. ISBN 0-8147-5434-1. JEL 87-0841

Thirteen papers and lectures, some published previously, present John Williamson's more recent work. Contains two papers in each of the following areas: economic theory and policy, exchange rates, liquidity and reserve needs, debt problems and development finance, international monetary reform, and domestic and global economic policy. Specific topics include: the post-1973 international

monetary system, the role of Keynes in the design of the postwar international economic order, the crawling peg in historical perspective, a survey of the literature on the optimal peg, reserve adequacy and international liquidity, effects of reserve growth on global inflation, resource transfer and the international monetary system, funding LDC debt, reassessment of world monetary reform, an agenda for monetary reform in the 1980s, macroeconomic management of the domestic economy, indexation, and the need to design a new global macroeconomic strategy and renew economic statesmanship. Williamson is at the Institute of International Economics, Washington, D.C. Index.

See also: Book Numbers JEL 87-0811, 87-0826

440 INTERNATIONAL INVESTMENT AND FOREIGN AID

BAILEY, NORMAN A. AND COHEN, RICHARD. *The Mexican time bomb*. Twentieth Century Fund Paper series. New York: Priority Press, 1987. Pp. vi, 61. \$9.00, paper. ISBN 0-87078-209-6.

JEL 87-0842

Argues that the third world debt problem is not one of temporary illiquidity but one of structural overindebtedness. Uses the example of Mexico's problems as a case study of misdiagnosis by international monetary authorities. Examines: the origins of the Mexican debt crisis through the payments crisis of 1982; Mexico as a model of debtor responsibility; and the exacerbation of problems from 1983 to 1986, including the decreasing political capacity of the country to sustain adjustment, and the failure of the model. Proposes that the third world debt crisis has entered a new phase characterized by erosion of the leverage of the monetary authorities and growing incentives for default among debtors. Concludes that the only way Mexico can reduce its deficits and resume noninflationary growth is with debt relief. Recommendations include: liberalization and rationalization of the Mexican economy, increased development funding, debt service limitation, and securitization of at least the private portion of the debt. No index.

BORNER, SILVIO. *Internationalization of industry: An assessment in the light of a small open economy (Switzerland)*. New York; Berlin; London and Tokyo: Springer, 1986. Pp. xiii, 172. \$53.80. ISBN 0-387-16872-0.

JEL 87-0843

Studies the internationalization of the Swiss economy, noting that there "is no other highly developed country in the world which is so extremely and integrally exposed to the world-wide currents of financial and economic change as is Switzerland." Part 1 presents a historical and global perspective of interdependency through international-

ization. Part 2 describes new forms of international investment and export financing. Part 3 presents a general model of new forms of internationalization, emphasizing the transactions cost approach. The next part describes empirical research on the impact of new forms of internationalization on Swiss industry, based on case studies. The last part includes recommendations for economic policy and business strategy, such as supporting new business and innovation and revitalization of older firms and mature industries. Borner is with the Institut für Angewandte Wirtschaftsforschung, University of Basel. No index.

CHO, DONG-SUNG. *The general trading company: Concept and strategy*. Lexington, Mass. and Toronto: Heath, Lexington Books, 1987. Pp. xv, 159. \$25.00. ISBN 0-669-14296-4. JEL 87-0844

Discusses the development and growth of the general trading company (GTC) as an international business entity, distinct from the multinational corporation (MNC). Traces the history of the GTC over the past four centuries. Discusses the concept of the GTC, emphasizing diversification; how the GTC differs from the MNC, noting the differences in origin (manufacturing primarily for the MNC), growth, and strategies; and the transplantation of the GTC concept to other countries including Japan, Korea, Taiwan, Thailand, Turkey, and the United States. The final chapter reviews the generic strategies of the GTC, involving decisions regarding specialization, diversification, investment, foreign direct investment, and volume versus profits. Cho is an Associate Professor of International Business and Business Policy at Seoul National University. Glossary; bibliography; index.

CHR. MICHELSEN INSTITUTE, DEPARTMENT OF SOCIAL SCIENCE AND DEVELOPMENT, DEVELOPMENT RESEARCH AND ACTION PROGRAMME. *Zambia: Country study and Norwegian aid review*. Fantoft, Norway: Author, 1986. Pp. xxi, 202. Paper. ISBN 82-08584-06-7. JEL 87-0845

Reports on a study on the effectiveness of development aid to Zambia commissioned by the Norwegian Ministry of Development Cooperation. Part 1 details the political and economic environment in which development aid operates and discusses Zambia's institutional and social structure, its economic development during the period 1964-85, potentials and policies for agricultural development, and the state of basic needs and human rights. Part 2 deals with Norway's development cooperation with Zambia and covers the pattern of Norwegian development assistance, reviews major areas of bilateral assistance, outlines options for the future, and presents recommendations for

the structure, monitoring, and coordination of future development aid. Siegfried Pausewang, coordinator of this study, is associated with the Chr. Michelsen Institute, Bergen. Selected bibliography; no index.

DICKE, DETLEV CIIR., ed. *Foreign debts in the present and a new international economic order*. Progress and Undercurrents in Public International Law series, vol. 1. Fribourg, Switzerland: University Press; distributed by Westview Press, Boulder, Colo., 1986. Pp. xii, 363. \$40.00, paper. ISBN 0-8133-0489-X. JEL 87-0846

Volume one of the series on Progress and Undercurrents in Public International Law. Contains the proceedings of the International Symposium on Foreign Debts in the Present and a New International Economic Order, held in Fribourg, Switzerland, in February 1986. Eighteen papers, one in French with an English summary, discuss the legal aspects of foreign debt in the context of a New International Economic Order. The papers examine alternative strategies; the evolution of indebtedness; developing country debt; the international monetary system and development; recent restructuring of international debt; IMF conditionality and state sovereignty; adjustment of loan agreements and strengthening international monetary soft law; the IMF's relationship with commercial banks; trade restrictions for balance of payments purposes and GATT; control of transborder movements of capital; Comecon as a debtor of the western financial system; the effects of economic coercion on heavily indebted countries; renegotiation and rescheduling; the Baker plan; foreign debt and international trade problems facing India; procedures and paradigms for renegotiation; and public debt, democratic principles, and the rule of law. The contributors are financial and legal specialists. Dicke is at the University of Fribourg, Switzerland. No index.

DIERSCH, HERBERT, ed. *The international debt problem: Lessons for the future*. Symposium series 1985. Tübingen, West Germany: Mohr, 1986. Pp. vi, 183. \$54.00. ISBN 3-16-345084-9. JEL 87-0847

Eight papers and comments from a symposium on the international debt problem, sponsored by the Kiel Institute of World Economics and the University of Kiel in June 1985. Papers address the topics of what went wrong and how the crisis could emerge and, more specifically, why the successful recycling of international capital in the 1970s led to overindebtedness; the debt problem and external shocks; bank lending and government intervention; government policies in developing

countries and future prospects; possible solutions to the transfer problem; the role of international organizations in the adjustment process; and government deposit insurance and moral hazard. Contributors are mainly economists. Giersch is Professor of Economics at the Kiel University. No index.

HEARN, PATRICK. *International business agreements: A practical guide to the negotiation and formulation of agency, distribution and intellectual property licensing agreements*. Aldershot, England and Brookfield, Vt.: Gower, 1987. Pp. viii, 222. \$59.50. ISBN 0-566-02597-3. JEL 87-0848

Designed as a practical guide for business negotiating or preparing an agreement with overseas associates. Deals with the five most common kinds of international agreements—appointing exclusive agents, appointing exclusive distributorships and licensing patents, know-how, and trade marks. Begins with a discussion of the general legal principles relating to all contracts, with special attention to the European Common Market. Contains a summary of the elementary rules of English contract laws and the application of these laws to international business transactions. Discusses items such as exclusive rights, obligations and responsibilities of agents and principals, commissions, warranties, confidentiality, duration, termination, conditions of sale, sales promotion, accounting records, protection of trade marks, infringements, settlement of disputes, royalties, and scope of agreements. Hearn is a barrister and consultant specializing in commercial agreements. Index.

KAZIS, DIMITRIS A. AND PERRAKIS, CHARALAMBOS I. *Licensing and Industrial Development: The case of Greece*. Translation. Centre of Planning and Economic Research Studies series, no. 4. Athens: Centre of Planning and Economic Research, [1984] 1986. Pp. 208. Paper. JEL 87-0849

Examines the licensing agreements currently existing between Greek and foreign firms and reviews the effects of such collaborations on the development of Greek industry. Explores in detail the terms of foreign technology transfer to Greece and their effects on Grecian industry, especially R&D, organization and management, and personnel training. Combines both a macro and micro approach: at the macro level, examines the extent of licensing agreements, their terms, and effects on economic indicators such as exports and imports. At the micro level, analyzes the positive and negative effects on enterprise. Analyzes data on royalty payments made by Greek firms since 1972, based on reviews of more than 100 licensing agreements, and interviews with about fifty Grecian companies. Concludes that licensing has had

a positive impact on the development of many Greek firms, at the cost of a greater dependence on foreign decision-making centers and the irrational development of certain industrial branches. Kazis is a research associate at the Centre of Planning and Economic Research. Perrakis is a manager in the Research and Economics Department, Commercial Bank of Greece. No index.

KHAN, KHUSHI M., ed. *Multinationals of the south: New actors in the international economy*. New York: St. Martin's Press, 1986. Pp. xi, 250. ISBN 0-312-55246-7. JEL 87-0850

Proceedings of an international conference organized by the German Overseas Institute in November 1985 at Hamburg. Twelve papers provide a theoretical and conceptual framework for an analysis of selected aspects of third world multinationals and their effects on the international economy. Essays examine their role as promoters of economic development, their activities in strategic sectors, and their significance for the South and discuss questions relating to the relevance of economic theory in explaining their emergence, their characteristics, and influence on strategies of self-reliance. Operational aspects of third world multinationals in production, trade, and finance are also discussed. Presents case studies of Arab and Indian multinationals, with empirical evidence. Concluding essays attempt to determine the areas in which old and new multinationals compete or cooperate, factors that govern their behavior patterns, and the practices and policies of the host countries of the South toward those multinationals. The contributors are mainly economists. Khan is Senior Research Fellow at the German Overseas Institute. Index.

OPPENHEIMER, MICHAEL F. AND TUTTIS, DONNA M. *Nontariff barriers: The effects on corporate strategy in high-technology sectors*. Boulder, Colo. and London: Westview Press, 1987. Pp. xiii, 203. \$25.00, paper. ISBN 0-8133-7403-0. JEL 87-0851

Studies the impacts of Japanese and European nontariff barriers on the international marketing, investment, and technology strategies of small-to-medium-sized high-technology U.S. firms. Focuses on the interactions among market distortions, corporate strategy, and U.S. trade policy. Provides twenty-three case histories describing the experience of U.S. firms with Japanese and European import regimes. Discusses the principal nontariff barriers encountered by the firms and summarizes their effects on corporate strategies. Provides information on industry structure, foreign government targeting practices, general bilateral trade issues,

and case studies in the biotechnology, computer, semiconductor, software, and telecommunications equipment industries. Finds that the most effective means of circumventing market restrictions has been the establishment of a wholly owned subsidiary in the overseas market. Presents observations on the policy implications of the findings and makes recommendations regarding U.S. industry/government relations, data and analytical resources, legal issues, and diplomatic approaches. Oppenheimer is Executive Vice President, and Tutts is Senior Research Associate with The Futures Group. Bibliography; no index.

SARKOVIĆ, T. MISIHA. *Direct foreign investment in Yugoslavia. A microeconomic model*. New York and London: Greenwood Press, Praeger, 1986. Pp. xvii, 206. \$37.95. ISBN 0-275-92159-X. JEL 87-0852

Develops a microeconomic model for joint ventures between multinational corporations and Yugoslav enterprises. Analyzes how the partners in a Yugoslav joint venture can reach an equilibrium solution to resource allocation and profit distribution on the basis of two different objective functions, maximization of profit or maximization of income per worker. Examines the performance of the Yugoslav self-management economy, the Yugoslav workers' self-management enterprise, theory of the multinational corporation, Yugoslav and socialist economy joint venture arguments, objectives and benefits of Yugoslav joint venture agreements, and legal regulations and the actual experience of Yugoslav joint ventures. Focuses on the role of transfer pricing, bargaining power, and structural inefficiencies that result from the unique structure of property rights in socialist Yugoslavia. The author is Assistant Professor of Economics, Jacksonville University. Bibliography; index.

UNITED NATIONS CENTRE ON TRANSNATIONAL CORPORATIONS. *Transnational corporations in South Africa and Namibia: United Nations public hearings*. Volume 1. *Reports of the Panel of Eminent Persons and of the Secretary-General*. U.N. Publication Sales No. E.86.II.A.6. New York: United Nations, 1986. Pp. xvi, 242. \$65.00, paper. ISBN 92-1-104179-1. JEL 87-0853

Volume 1 of the record resulting from U.N. public hearings held in September 1985 on the activities of transnational corporations in South Africa and Namibia. Major topics are: the activities and operations of transnational corporations in South Africa and the extent to which they contribute to and sustain the system of apartheid; the role of transnational corporations in the military and nuclear sectors of South Africa and Namibia; employ-

ment practices of transnational corporations and their socioeconomic impact, including effects on the housing patterns and lifestyles of families; and the activities and operations of transnational corporations in Namibia, particularly their exploitation of Namibian resources and their support of South Africa's illegal occupation. Part 1 consists of the panel report and recommendations. Part 2 presents a tabulation of activity measures proposed in U.N. resolutions and/or adopted in various countries. Part 3 contains a bibliography. First of a four-volume set. Also available in French, Russian, and Spanish. No index.

See also: Book Numbers JEL 87-0742, 87-0743, 87-0843, 87-0889

500 Administration; Business Finance; Marketing; Accounting

PAPPAS, JAMES L. AND HIRSCHHEY, MARK. *Managerial economics*. Fifth edition. Dryden Press Series in Economics. Chicago; Montreal; London and Sydney: Dryden, [1974 . . . 1983] 1987. Pp. xvi, 607. ISBN 0-03-008543-8. JEL 87-0854

Fifth edition of an economics textbook for managerial decision-making courses. [See JEL no. 83-0452 for annotation of the fourth edition.] Changes in the fifth edition include: more complete and user-oriented material on regression equations and statistics; a new chapter on forecasting, covering both qualitative and quantitative techniques; the development of optimal input combinations in the chapter on production; the expansion of cost analysis to provide more coverage of efficient scale, economies of scale, and experience; expanded material on market concentration; revision of treatment of government in the market economy to include questions of equity and efficiency and scope of deregulation; and a changed sequence of treatment of capital budgeting and uncertainty, including coverage of probability and game theory. Chapters contain summaries, questions, and extensively revised problems; short cases conclude each chapter. A mathematical appendix has been added to the second chapter. Pappas is at the University of South Florida. Hirschhey is at Rice University. Index.

See also: Book Number JEL 87-0847

510 ADMINISTRATION

ARKES, HAL R. AND HAMMOND, KENNETH R., eds. *Judgment and decision making: An interdisciplinary reader*. Cambridge; New York and Sydney: Cambridge University Press, 1986. Pp. xiv, 818.

\$59.50, cloth; \$21.95, paper. ISBN 0-521-32617-6. JEL 87-0855

General, interdisciplinary selection of forty-three readings chosen to assist the reader in developing an appreciation of the field of judgment and decision making. Requires an elementary understanding of algebra and statistics. Organized in eleven parts: introduction, judgment and social policy, economics, law, interpersonal conflict, clinical judgment in medicine and psychology, social prediction and judgment, experts, development and learning, research techniques, and overview. Many of the contributors are psychologists. Arkes is in the Department of Psychology, Ohio University. Hammond is in the Department of Psychology, University of Colorado. Name and subject indexes.

BERNIER, BERNARD AND SIMON, YVES. *Initiation à la macroéconomie: Manuel concret de 1er cycle (Initiation to macroeconomics)*. Second edition. Paris: Dunod; distributed in North America by Diffusion, Montreal, 1986. Pp. xvi, 438. Fr 145.00; Can\$ 47.95, paper. ISBN 2-04-016517-7. JEL 87-0856

Introductory textbook covering all the major basic macroeconomic questions with special reference to business and managerial environments. Using real life examples and recent quantitative data, the authors have attempted, throughout the twenty-two chapters, to fulfill the needs of the students by providing a readable and practical manual on the subject. Bernier and Simon are professors, respectively, at the Centre H.E.C.-I.S.A. (Paris) and at the University of Paris-Dauphine. Bibliography, subject index. [Jean Mirucki]

FARRIS, MARTIN T. AND HAPPEL, STEPHEN K. *Modern managerial economics*. Glenview, Ill. and London: Scott, Foresman, 1987. Pp. 516. \$30.95. ISBN 0-673-18042-5. JEL 87-0857

Introductory textbook for courses in managerial economics, business economics, or theory of the firm; no prerequisites. Part 1 provides the foundations of managerial economics (the role of managerial economics; theory of the firm; profits; and the attempt to reduce uncertainty through forecasting). Part 2 examines revenue and costs (demand analysis; neoclassical production theory and short-run cost theory; and long-run costs, estimation, and alternative concepts). Part 3 considers market structures and government involvement (models of pure competition and pure monopoly; monopolistic competition; oligopoly; price discrimination and differentials; theories of profit; and the microeconomic role of government in the market place). Part 4 presents applications to real world pricing;

capital budgeting; nonprofit organizations; location of production and markets; and strategic decision making. Each chapter contains a summary and study questions. An IBM microcomputer simulation, instructor's manual, and student workbook are also available. The authors are at Arizona State University. Subject and name indexes.

HWANG, CHING-LAI AND LIN, MING-JENG. *Group decision making under multiple criteria: Methods and applications*. Lecture Notes in Economics and Mathematical Systems series, vol. 281. New York; Berlin; London and Tokyo: Springer, 1987. Pp. xi, 400. \$38.90, paper. ISBN 0-387-17177-0.

JEL 87-0858

Introductory textbook on the methods of group decision making under multiple criteria. Presents the methods of: social choice theory (various voting and counting systems, the social choice function, and the social welfare function); experts' judgment and/or group participation (including brainstorming, brainwriting, the nominal group technique, synectics, surveys, delphi method, conferences, cognitive map, implementing and controlling a project, the ordinal vs. cardinal approaches for evaluation/selection of alternatives, and a systems approach to experts' judgments and/or group participation analysis); and game theory. Sequel to the authors' works pertaining to multiple objective and multiple attribute decision making [See JEL nos. 79-0698 and 82-0785 for annotations of the previous works]. Hwang is in the Department of Industrial Engineering, Kansas State University. Lin is in the Department of Physics and Engineering, Roosevelt University. No index.

KEATING, BARRY AND WILSON, J. HOLTON. *Fundamentals of managerial economics*. San Diego; London; Sydney and Toronto: Harcourt, Brace, Jovanovich; Academic Press, 1987. Pp. xii, 625. \$32.95. ISBN 0-15-529457-1.

JEL 87-0859

Intended for use in applied economics courses that deal with the economics of the firm. Emphasizes applications of microeconomic theory; also uses tools from statistics, mathematics, operations research, and macroeconomics. Demonstrates how economic concepts such as elasticity, forecasting, demand analysis, production, and cost are used by business decision makers. Includes a discussion of the role of business economists. Reviews basic graphic and statistical tools. Covers demand, including demand forecasting, using both qualitative and quantitative techniques; production and cost theory; the use of linear programming as an optimizing tool, emphasizing when to raise it and how to interpret the results; different market structures and pricing decisions; the regulation of business;

and risk and capital budgeting. Chapters contain summaries, reading lists, and problems. Keating is at the University of Notre Dame and Wilson is at Central Michigan University. Index.

LAMB, ROBERT BOYDEN. *Running American business: Top CEOs rethink their major decisions*. New York: Basic Books, 1987. Pp. x, 315. \$19.95. ISBN 0-465-07150-3.

JEL 87-0860

Presents the results of interviews with eighty-nine CEOs, focusing on how strategies are determined, the influence of manager personalities, the extent of planning, the influence of external forces, and the degree of internal control over options. Points out that the CEO must balance conflicting interests of institutional investors, lenders, customers, financial markets, and government. Describes the environment in which the CEO operates as the "phantom club" of CEOs—"a free-floating, shifting collection of informal and formal relationships that CEOs build throughout their careers." Probes areas of strategic decisions such as finance, marketing, technology, takeovers, manpower, and succession. Concludes by emphasizing the environment of uncertainty in which the CEO must operate today. Uses specific examples of CEOs and companies to illustrate points. Lamb is Clinical Professor of Finance and Management at New York University. Indexes of executives and corporations.

LEVI, ISAAC. *Hard choices: Decision making under unresolved conflict*. Cambridge; New York and Melbourne: Cambridge University Press, 1986. Pp. xii, 250. \$34.50. ISBN 0-521-32527-7.

JEL 87-0861

Develops a framework to analyze rational decision making under unresolved conflict in values. Proposes that conflict in values is often generated by uncertainty concerning the consequences of the feasible options and that inquiry does not always lead to resolution of conflicts in value by the time a choice is required. Examines moral conflict; value conflict in scientific inquiry; value pluralism; questions regarding choice, foreknowledge and feasibility; value commitments, structures, ways of evaluation, and criteria of admissibility; uncertainty as a source of conflict; the relation between the rationality of decision making under unresolved conflict and social agency; and distributing benefits. Critiques various versions of utilitarianism, Rawlsian approaches to distribution, and Arrowian approaches to social choice. Concludes that this revision of the assumptions that underlie most decision theory, microeconomic theorizing, and risk assessment offers a vision of problem-solving inquiry applicable to both scientific inquiry and efforts to

settle unresolved conflicts. Levi is Professor of Philosophy, Columbia University. Bibliography; name and subject indexes.

RY, ROBERT H. *Operations technology: Systems and evolution*. Baltimore and London: Johns Hopkins University Press, 1986. Pp. xv, 252. \$32.50. ISBN 0-8018-3340-X. JEL 87-0862

Portrays the development of operations technology in an evolutionary sequence. Identifies, defines, and exemplifies seven operations technologies according to the manner in which related operations that provide goods or services to customers and clients are arranged and performed: jobbing system control and articulated, balanced, continuous, automated, programmed, and "intelligent" systems. Compares the seven system technologies by examining the time and other dimensions of five elemental intervals (moving unit or batch of product or service to a work center, processing job at work center, stoppages, delays to work in process, and sequencing delays). The comparative dimensions used are: total time, cycle time, operational efficiency, system efficiency, working-capital requirements, work-in-process inventory, operational floor-space requirements for events taking place between points of entry into a system, and completion of the product or service the system provides. Examples of work situations in the system technologies examined include: purchasing, public works procurement, an outpatient clinic, legal and judicial processes, nuclear power, a rail mill, a flour mill, bookmaking, telephone cable, a research library, a money market fund, robots, and expert programming in medical diagnosis. Roy is Dean Emeritus of Engineering and Professor Emeritus of Industrial Engineering, Johns Hopkins University. Index.

SLOVIN, MYRON B. AND SUSHKA, MARIE E. *Macroeconomics for managers*. Englewood Cliffs, N.J.: Prentice-Hall, 1987. Pp. xvi, 512. ISBN 0-13-42837-4. JEL 87-0863

Textbook designed for a course in business macroeconomics. Assumes no prior economics background and little mathematical facility. Has an applied orientation, focusing on how changes in the economy or in economic policy influence the firm. Reviews the tools of economics, presents a model of aggregate demand and supply, and discusses the financial sector and financial decision making, investment, and public policy issues, particularly as they affect the business sector and managerial decisions. Divided into five parts: foundations of macroeconomics, the macroeconomic model, the financial sector, the determinants of spending, and economic policy. Includes summary, references,

and exercises at end of chapters. Slovin is Professor of Finance at the University of Colorado, Denver. Sushka is Professor of Finance at Arizona State University. Index.

VON WINTERFELDT, DETLOF AND EDWARDS, WARD. *Decision analysis and behavioral research*. Cambridge; New York and Melbourne: Cambridge University Press, 1986. Pp. xv, 604. ISBN 0-521-27306-X. JEL 87-0864

Textbook for first-year graduate students with no mathematical prerequisites, though also intended for use by mature decision scientists. Emphasizes the intertwining of formal analysis and behavioral research and gives primary attention to governmental rather than business examples. Covers: basic concepts and their relation to behavior, structuring for decision analysis, decision trees, uncertainty and its measurement, Bayesian statistics, inference, value and utility measurement, multiattribute utility theory, sensitivity analysis and flat maxima, applications and pitfalls of analysis, cognitive illusions, and history and research prospects of decision analysis. Von Winterfeldt is at the Institute of Safety and Systems Management and Social Science Research Institute and Edwards is at the Social Science Research Institute, University of Southern California. Author and subject indexes.

See also: Book Number JEL 87-0703

520 BUSINESS FINANCE AND INVESTMENT

See also: Book Number JEL 87-0807

530 MARKETING

BACKHAUS, KLAUS AND WILSON, DAVID T., eds. *Industrial marketing: A German-American perspective*. Berlin; New York and Tokyo: Springer, 1986. Pp. viii, 373. \$39.00. ISBN 0-387-16114-7. JEL 87-0865

Seventeen papers presented at the German-American conference on Industrial Marketing, held in Mainz, West Germany, in September 1984. Focus is on industrial marketing research in both countries, with the aim of promoting increased co-operative research in this field. Essays are in eight sections: state of the art in West Germany and the United States (2 papers); industrial buying behavior (2 papers); industrial selling behavior (2 papers); interaction behavior (3 papers); marketing/technology mix (2 papers); risk assessment and risk behavior (2 papers); methodological concepts (2 papers); and new industrial product success (2 papers). Most of the contributors are marketing and

management specialists. Backhaus is Professor of Business Administration and Marketing at the Johannes Gutenberg University, Mainz. Wilson is Professor of Marketing at the Pennsylvania State University. No index.

McAULIFFE, ROBERT E. *Advertising, competition, and public policy: Theories and new evidence*. Lexington, Mass. and Toronto: Heath, Lexington Books, 1987. Pp. vi, 116. ISBN 0-669-12391-9.

JEL 87-0866

Provides a survey of the theoretical issues in the debate over the effect of advertising expenditures, incorporating new developments such as strategic deterrence, consistent conjecture, barriers to entry, and information theories. Describes the controversy over the causal relation between advertising and measures of market power. Reviews models that show that the positive correlation between advertising and profits may be due to other factors. Analyzes the difficulties faced in measuring the advertising/profit relationship. Reviews the results of several causal tests for twenty-seven firms for the period 1955-83. Concludes with a discussion of advertising and public policy, including the effects of advertising restrictions on welfare. McAuliffe is Assistant Professor of Economics at Babson College in Wellesley, Massachusetts. Index.

540 ACCOUNTING

JENKINS, ALEXANDER W. *The accounting profession in Alberta: An economic analysis of licensure and self-regulatory reforms, and a counter-proposal*. Vancouver, British Columbia: Fraser Institute, 1986. Pp. xiv, 77. \$7.95, paper. ISBN 0-88975-090-4.

JEL 87-0867

Analyzes the need for both self-regulatory and exclusive practice reforms in Alberta accountancy. Examines the nature of accounting, public accounting, and the accounting profession as well as the professionalism and self-regulatory status of chartered, certified general, certified management, and other accountants in Alberta. Evaluates industry performance, the scope for reform, and the social costs and benefits of the current exclusive practice/licensure issue, i.e., limiting provincial audits to members of the Institute of Chartered Accountants of Alberta. Concludes that there is a need for self-regulatory legislative reforms, which are more uniform, comprehensive, and compelling than the current legislative bills, and that if exclusive practice rights for audits and reviews are granted, audit licensure should be broadened to include all accountants that could be designated as audit specialists. Jenkins is Associate Professor of Economics, University of Alberta. No index.

600 Industrial Organization; Technological Change; Industry Studies

610 INDUSTRIAL ORGANIZATION AND PUBLIC POLICY

ADLER, HANS A. *Economic appraisal of transport projects: A manual with case studies*. Second edition. World Bank Economic Development Institute Series in Economic Development. Baltimore and London: Johns Hopkins University Press for the World Bank, [1969] 1987. Pp. xii, 235. \$27.50, cloth; \$12.50, paper. ISBN 0-8018-3429-5, pbk.

JEL 87-0868

Introductory textbook on the economics of transport projects in developing countries. Revisions include incorporation of literature appearing since the first edition, advances in methodology such as shadow pricing, and additional empirical information. Places greater emphasis on transport sector planning as a prerequisite for appraising individual projects, on rural roadways, and on applications of cost-benefit analysis to investigate, operations, and maintenance. Part 1 provides a background on the methodology of economic appraisal, describing economic costs, shadow prices, traffic forecasting, optimum timing, risk analysis, and use of cost/benefit appraisals. Part 2 illustrates the practical application of economic analysis, presenting fifteen case studies of various projects that cover the principal modes of transport—roads, railways, pipelines, ports, and airports. Adler is Senior Adviser in the Projects Policy Department of the World Bank. Bibliography; index.

CREW, MICHAEL A. AND KLEINDORFER, PAUL R. *The economics of public utility regulation*. MIT Press Series on the Regulation of Economic Activity. Cambridge, Mass.: MIT Press, 1986. Pp. viii, 304. ISBN 0-262-03127-2.

JEL 87-0869

An analysis of important issues of theory and policy formulation related to public utility regulation. Part 1 examines the welfare economic foundations of public utility regulation. Part 2 surveys the theory of peak-load pricing. Part 3 reviews the principles and practice of regulation in the United States. Part 4 discusses the nature of regulation in the electricity, telecommunications, gas, and water supply industries, and outlines certain implications for future research and policy. Crew is Professor of Economics at Rutgers University. Kleindorfer is Professor of Decision Sciences and Economics at the University of Pennsylvania. Index.

ECONOMIC COUNCIL OF CANADA. *Minding the public's business*. Ottawa: Author; distributed by Supply and Services Canada, Ottawa, 1986. Pp. xii, 180.

\$10.95, Canada; \$13.15, other countries; paper. ISBN 0-660-12317-0. JEL 87-0870

Study of government enterprise in Canada for the purpose of determining under what circumstances government enterprise is an appropriate policy response as well as its optimal administrative arrangements. Examines the extent of government ownership and reviews the factors underlying the emergence of the government enterprise sector and activities of public corporations in specific sectors (electric power, telecommunications, urban transit, transportation, and nonrenewable resources) and their use as instruments of industrial policy (government as entrepreneur, bailouts, and mixed enterprises). Identifies components of an accountability and control framework for government enterprise. The conclusion discusses the advantages and issues related to government enterprise and/or privatization. Recommends greater accountability and control of existing government enterprises, greater involvement of the private sector and promotion of competition, and privatization of Air Canada and Petro-Canada. No index.

GREER, DOUGLAS F. *Business, government, and society*. Second edition. New York: Macmillan, London: Collier Macmillan, 1987. Pp. xvii, 574. \$26.50. ISBN 0-02-347120-4. JEL 87-0871

Second edition of an introductory textbook for undergraduate business and government courses. Changes have been made to reflect new government and research findings and major recent policy and economic developments, particularly those related to telecommunications, merger enforcement and acquisition trends, misrepresentation and unfair practices, resale price maintenance and vertical restraints, hazardous waste regulations, nuclear power plant failures, and transportation deregulation. Each chapter contains summaries and exercises. [For annotation of first edition, see JEL no. 84-0508.] Greer is at San Jose University. Glossary; name, case, and subject indexes.

COBBSON, STAFFAN. *Electronics and industrial policy: The case of computer controlled lathes*. World Industry Studies series, no. 5. London; Boston and Sydney: Allen and Unwin, 1986. Pp. xx, 252. \$37.95. ISBN 0-04-338138-3. JEL 87-0872

Deals with microelectronics-based innovations in machine tools, focusing on the production and use of computer numerically controlled machine tools in the world economy, particularly in the third world. Uses Argentina, Taiwan, South Korea, Japan, and a few European countries for case materials. Interested especially in the implications that computer numerically controlled machine tools may have for the newly industrializing nations, ap-

proaching the problem as one of applied economics. Examines the place of the developing countries in the international division of labor, how readily producers of conventional lathes can switch to computer numerically controlled lathes, and the role of government in this process. Concludes that government intervention policies need to be product specific rather than uniform between firms. Based on author's Ph.D. thesis in economics at the University of Sussex (1985). Jacobsson is a Research Fellow at the Research Policy Institute at the University of Lund, Sweden. Index.

JACQUEMIN, ALEXIS. *The new industrial organization: Market forces and strategic behavior*. Translated by FATEMEH MEHTA. Cambridge, Mass. and London: MIT Press, [1985] 1987. Pp. x, 217. \$27.50, cloth; \$12.50, paper. ISBN 0-262-60014-5, pbk. JEL 87-0873

Originally published in French as *Sélection et pouvoir dans la nouvelle économie industrielle* in 1985. Surveys approaches of the "new industrial organization" that are applied to the enterprise, its market relations, and its internal organization. Contrasts the perspective that the industrial economy adapts itself to the norms of an efficient allocation of resources with the perspective that stresses the role of market power. Points out that the roles attributed to economic policy and industrial policy will be different according to the weight given to these two paradigms. Covers selective market mechanisms, the behavior of corporations trying to exploit oligopolistic interdependencies; the role of potential competition; organizational forms adopted by enterprises; and different roles assigned to industrial policy. Jacquemin directs the Centre for Economic and Legal Research in Industrial Organization at the Catholic University of Louvain in Louvain-la-Neuve, Belgium. Index.

KHAZZOUM, J. DANIEL. *An econometric model integrating conservation measures in the residential demand for electricity*. Contemporary Studies in Energy Analysis and Policy series, vol. 8. Greenwich, Conn. and London: JAI Press, 1986. Pp. xi, 305. ISBN 0-89232-696-4. JEL 87-0874

Develops a model designed to integrate engineering and economic approaches to modeling the household demand for electricity in a service area and separate out the contribution of the engineering effect of efficiency improvement from the feedback effect and the effects of economic variables. Estimates the model for electrically heated and gas-heated homes from 1969-80, and incorporates differences between summer and winter demand; focuses on the Sacramento Municipal Utility District. Discusses: the problem of quantifying the

impact of conservation; the specification of the model, especially the development of indices of appliance efficiency and of thermal integrity and their integration with economic variables that affect electricity demand; and the estimation and testing of the model. Khazzoom is a member of the Department of Economics, University of California, Berkeley. Index.

MORVAN, YVES. *Fondements d'économie industrielle (Foundations of industrial economics)*. Gestion. Paris: Economica; distributed in North America by Diffuseur G. Vermette, Boucherville, Quebec, 1985. Pp. iv, 482. Fr 150.00; Can\$ 41.95, paper. ISBN 2-7178-0930-9. JEL 87-0875

Provides a variety of thematic articles useful to the general practitioner. Each one of them is treated with graphs, practical examples and with reference to the pertinent literature. Includes annotated description of statistical sources on industrial activity. Morvan is a professor at the University of Rennes and responsible for the Groupe d'Etudes des Systèmes Industriels. Bibliography; subject index. [Jean Mirucki]

NORMAN, G., ed. *Spatial pricing and differentiated markets*. London Papers in Regional Science series, no. 16. London: Pion; distributed in the U.S. by Methuen, N.Y., 1986. Pp. 190. \$24.95, paper. ISBN 0-85066-121-7. JEL 87-0876

Thirteen papers resulting from a session on spatial pricing and spatial equilibrium at the Annual Conference of the British Section of the Regional Science Association in Manchester in September 1985. Considers areas of interest to regional science and spatial economics. Specific topics are: "address" models of differentiation, equilibrium existence in the circle model of product differentiation, existence of price equilibria under mill and uniform delivered price policies, stability of cartels in spatial markets, competitive mill and uniform pricing, demand curves and spatial pricing, spatial competition with cross-hauling, costs and social welfare in the theory of the spatial firm and industry, market strategy with variable entry threats, the economics of vertical restraints on retailers, intra-urban retail price competition, and regional price discrimination in the U.K. gas industry. Norman is a member of the Department of Economics, University of Leicester. Author and subject indexes.

PATRICK, HUGH, ed. *Japan's high technology industries: Lessons and limitations of industrial policy*. With the assistance of LARRY MEISSNER. Seattle and London: University of Washington Press; Tokyo: University of Tokyo Press, 1986. Pp. xxi, 277. \$40.00. ISBN 0-295-96342-5. JEL 87-0877

Seven essays, the result of a project sponsored by the Committee on Japanese Studies, focus on high technology industries, industrial policy, and the Japanese economy. Essays present an analysis and evaluation of Japanese high technology and assess its relevance for the United States. Several essays present case studies of the information industry, biotechnology, and the full range of high tech industries. Others examine the characteristics of the way the Japanese government, through the Ministry of Trade and Industry (MITI), formulates and administers high tech industrial policy, describing the array of industrial policy implements. Also discusses a joint United States-Japanese research project involving cooperation of competitive firms. The final essay traces the evolution of Japanese industrial policy since the 1950s, proposing general lessons for the U.S. from the Japanese experience. Contributors are social scientists, and international and business specialists. Patrick is R.D. Calkins Professor of International Business at Columbia University. Index.

PUTTERMAN, LOUIS, ed. *The economic nature of the firm: A reader*. With the assistance of RANDY KROSZNER. Cambridge; New York and Melbourne: Cambridge University Press, 1986. Pp. x, 371. ISBN 0-521-32278-2. JEL 87-0878

Twenty-four papers (all previously published) discuss topics regarding the economic nature of the firm. Part 1 deals with the division of labor within and among firms, containing selections by Adam Smith, Karl Marx, Frank Knight, and Alfred Chandler as well as papers on the nature of the firm, the use of knowledge, and relational exchanges. Part 2 deals with the employment relation, the internal organization of the firm, individual mobility and union voice, and productivity. Part 3 contains papers on the management, finance, and scope of the firm. Part 4 presents radical perspectives on firm structure and includes papers on the role of hierarchy, an institutional approach to the organization of work, why capital hires labor, and alternative models of the production process in a competitive economy. The contributors are mainly economists. Putterman is at Brown University. No index.

RICKETTS, MARTIN. *The new industrial economics: An introduction to modern theories of the firm*. New York: St. Martin's Press, 1987. Pp. xii, 308. \$29.95. ISBN 0-312-00458-3. JEL 87-0879

Reviews theoretical developments in the theory of the firm, emphasizing the problem of information and transactional difficulties encountered in a world in which people are not fully informed.

Especially concerned with explaining how transactions costs theory affects views of business enterprise. Author's theory of the firm is based on exchange and uses the Edgeworth box for analysis. Part 1 describes the basic concepts and includes chapters on the gains from trade, transactions costs, the entrepreneur, and property rights. Part 2 discusses the nature of the internal structure of the firm, viewing it as a governance structure for complex and implicit exchange transactions. Considers the contractual problem faced by principal and agent in analytical detail, the organization of hierarchies within firms, determinants of the size and scope of firms, and the division of ownership from control. Concludes that firms continually adjust to new circumstances and require entrepreneurs to assist in the process by using the knowledge of workers, making judgmental decisions about the appropriate responses to economic change, pushing through new developments, and restructuring property rights as new information becomes available. Ricketts is a Reader in Economics at the University of Buckingham. Bibliography; name and subject indexes.

U.S. DEPARTMENT OF COMMERCE. *A competitive assessment of the U.S. pharmaceutical industry*. International Competitive Assessment Series. Boulder and London: Westview, 1986. Pp. xii, 113. \$28.50, paper. ISBN 0-8133-7277-1.

JEL 87-0880

Focusing, on the development of new drugs, identifies underlying forces that will influence international competition of the pharmaceutical industry in the future, such as an aging population increasing the demand for the industry's products, advances in biotechnology, rising R&D costs, increasing pressure for health care containment programs, and increasing ethical involvement as new drugs affecting life become available. Describes the evolution of the industry; the performance of the industry, covering sales, growth, productivity, R&D and profitability; the international competitive scene; research and development expenditures in selected countries; the effect of government regulation on international competition; the drug development process; trends for the future; strategies of foreign governments, particularly the United Kingdom, Japan, and West Germany; and the projected international future for the industry including policy options. Suggests that federal policy might include improved FDA guidelines, investment in computer analysis related to drug design and testing, and FDA assistance in management information systems. Also calls for increased industry R&D outlays, particularly cooperative projects. Glossary; bibliography; no index.

WENDERS, JOHN T. *The economics of telecommunications: Theory and policy*. Cambridge, Mass.: Harper and Row, Ballinger, 1987. Pp. x, 284. \$34.95. ISBN 0-88730-119-3. JEL 87-0881

Demonstrates how economic tools can be applied to explain current behavior in the telecommunications industry and to help develop future public policy consistent with economic efficiency. Gives the background in economics necessary to understand the policy prescriptions stemming from economic efficiency. Reviews welfare economics and its relationship to competitive markets. Develops a simple model of the various telecommunications markets by assuming regulation and then examining what policy to follow. Examines factors such as demand, usage, optimal pricing, local measured service, benefit/cost, and extended area service. Argues that the telecommunications cartel was established and fostered by the political process and that regulators have been exposed to pseudoeconomic rationalizations to justify telephone pricing policies. Concludes that although it may be politically optimal to continue to subsidize local service from toll markets, it is economically less efficient than complete deregulation. Wenders is Professor of Economics at the University of Idaho. Index.

See also: Book Numbers JEL 87-0669, 87-0670, 87-0785, 87-0848, 87-0857, 87-0873, 87-0909

630 ECONOMICS OF TECHNOLOGICAL CHANGE

HIERONYMI, OTTO, ed. *Technology and international relations*. With contributions by MICHEL BARJON ET AL. New York: St. Martin's Press, 1987. Pp. 194. \$32.50. ISBN 0-313-78903-5.

JEL 87-0882

Twelve papers examine the role of technology in international relations. Papers discuss the international aspects of technology in terms of medicine, war, and economics; the role of government subsidies to industrial innovation; the nature and causes of long waves; the changing role of agriculture in international trade and aid; technology and economic growth; technology and economic leadership; alternative R&D strategies; changing social values and lifestyles and their implications for technology; the industrial development of OAPEEC countries; technology and the terms of trade; transfer of technology and the third world; and integrating science and technology with economic strategies. The contributors are mainly economists and scientists. Hieronymi is head of the Program of Economic Analysis and Forecasting, Battelle-Geneva Research Centres, Geneva Switzerland. No index.

KATZ, JORGE M., ed. *Technology generation in Latin American manufacturing industries*. New York: St. Martin's Press, 1987. Pp. xi, 549. \$39.95. ISBN 0-312-79002-3. JEL 87-0883

Sixteen papers many of which were submitted at the seminar on technology and economic development of the Research Programme on Scientific and Technological Development in Latin America in Buenos Aires at the end of 1978. The Program is supported by the Inter-American Development Bank, the Economic Commission for Latin America, the United Nations Development Program, and the Canadian International Development Research Center. Much of the research was conducted by a team of economists and engineers and pertains to Argentina, Brazil, Mexico, Venezuela, Colombia, and Peru. Papers explore problems of technological change in manufacturing industries. Part 1 consists of four papers on the state of the theory of innovation. Part 2 presents abridged versions of ten case studies. Five are studies of individual firms, i.e., integrated steel producers in Argentina, Brazil, and Mexico; a rayon producer in Argentina; and two petrochemical plants. Three are industry studies (cigarettes, construction, and cement in Argentina) and two are macroeconomic studies pertaining to the nature and determinants of technical change in the Peruvian industrial sector and the Argentine experience in the international sale of industrial plants and engineering work. The remaining two papers present preliminary theoretical efforts toward constructing a theory of innovation. The contributors are mainly economists and science, technology, and policy specialists. Katz is Professor of Industrial Economics at the University of Buenos Aires and Senior Research Fellow at the Economic Commission for Latin America in Buenos Aires. Index.

NIJKAMP, PETER, ed. *Technological change, employment and spatial dynamics: Proceedings of an international symposium on technological change and employment: Urban and regional dimensions, held at Zandvoort, the Netherlands, April 1-3, 1985*. Berlin; New York and Tokyo: Springer, 1986. Pp. vii, 466. \$38.50, paper. ISBN 0-387-16478-2. JEL 87-0884

Proceedings of an international symposium on Technological Change and Employment: Urban and Regional Dimensions. Twenty-four papers focus on two themes: the relationship between technological developments and shifts in the labor market and the interaction between the urban or regional production environment and technology changes. Papers in part 1 discuss general, theoretical, and methodological aspects of aforementioned relationships. Those in part 2 examine actual trends

in the spatial dimensions of technological developments and employment. Part 3 focuses on the modeling efforts directed toward analyses of: adaptive economizing, technological change, and the demand for labor; spatial allocation of capital and labor; residential and labor mobility; spatial evolution, spatial mobility, employment, and technology; innovation and urban life cycles; the dynamics of regional specialization over time in individual establishments; and regional growth. The contributors are economists, geographers, and urban and regional specialists. Nijkamp is at the Free University, Amsterdam. No index.

STEWART, FRANCES, ed. *Macro-policies for appropriate technology in developing countries*. Boulder, Colo. and London: Westview Press in cooperation with Appropriate Technology International, Washington, D.C., 1987. Pp. x, 315. \$29.85, paper. ISBN 0-8133-7303-4. JEL 87-0885

Nine papers, which were the focal point of a workshop held in Washington, D.C., in January 1986 sponsored by Appropriate Technology International and the Overseas Development Council. The collection based on the hypothesis that the failure in achieving appropriate technology on a significant scale in developing countries may be attributed to obstacles resulting from macro-policies. The introductory paper by the editor provides a classification of macro-policies for appropriate technology. Seven papers review empirical studies of policies designed to promote appropriate technology. Studies examine technology choice in agriculture in India (Ashok Rudra), irrigation in Bangladesh (Stephen Biggs and Jon Griffith), small farm paddy threshing technology in Thailand and the Philippines (Bart Duff), rural linkages in the Philippines and Taiwan (Gustav Ranis and Frances Stewart), appropriate technology in sugar manufacturing (Raphael Kaplinsky), manufacturing in Kenya and Tanzania (Jeffrey James), and technological change and appropriate technology in Latin America (Philip Maxwell). A final paper written by the editor provides an overview and concludes that the major problem in securing desired policy changes lies in the political economy. Stewart is Fellow of Somerville College and Senior Research Officer at Queen Elizabeth House, Oxford University. Index.

See also: Book Numbers JEL 87-0849, 87-0872, 87-0829

630 INDUSTRY STUDIES

GOLOMBEK, ROLF; HOEL, MICHAEL AND VISLIE, JON, eds. *Natural gas markets and contracts*. Contribu-

tions to Economic Analysis series, no. 161. Amsterdam; New York; Oxford and Tokyo: Elsevier Science, North-Holland; distributed in North America by Elsevier Science, New York, 1987. Pp. x, 320. \$66.75. ISBN 0-444-70206-7.

JEL 87-0886

Fourteen contributions divided into three parts. The first part contains three papers that analyze the economic and political features of the European natural gas market. Argues that the position of suppliers was weakened after 1974, especially because Norway, Algeria, and the U.S.S.R. exported too much gas. Considers a partial equilibrium model and analyzes the extent of market power by producers. Discusses the privatization of British gas and possible consequences. Part two describes different aspects of the demand for natural gas. The three papers discuss the dynamics of interfuel substitution in the OECD-European industrial sector; the residential demand for natural gas, using a discrete-continuous dynamic choice model; and the diversification of natural gas imports. Part 3 deals with negotiation problems, bargaining theory, and the design of long-term contracts. Examines the Norwegian experience, the relationship between the price of natural gas and crude oil, bilateral monopoly and exhaustible resources, and evidence on natural gas contracting in the United States. Colombek, Hoel, and Vislie are members of the Department of Economics, University of Oslo. Subject and author indexes.

JAMES, ESTELLE AND ROSE-ACKERMAN, SUSAN. *The nonprofit enterprise in market economics*. Fundamentals of Pure and Applied Economics series, no. 9, Economics Systems section. Chur, Switzerland; London; Paris and New York: Harwood Academic, 1986. Pp. viii, 102. Paper. ISBN 3-7186-0329-2.

JEL 87-0887

An analysis of private nonprofit organizations which have no owners with a legal right to appropriate the surplus generated by the organization. Primarily concerned with philanthropies, which derive a portion of their revenues from tax deductible contributions. Presents observations on the scope of the nonprofit sector and examines theories of nonprofit organization formation. Provides models of nonprofit's behavior and a comparison of nonprofit and profit-making organizations. Discusses the ideology, resources and competition of the nonprofits. Also contrasts nonprofits with profit-constrained firms and bureaucracies. Concludes with a discussion of policy issues. James is a Professor of Economics and Chair of the Economics Department at the State University of New York at Stony Brook. Rose-Ackerman is Professor of Law and Political Economy and Director of the Center for Law

and Economic Studies at Columbia University. Bibliography; index.

NATIONAL RESEARCH COUNCIL, COMMISSION ON ENGINEERING AND TECHNICAL SYSTEMS, MANUFACTURING STUDIES BOARD. *Toward a new era in U.S. manufacturing: The need for a national vision*. Washington, D.C.: National Academy Press, 1986. Pp. xiv, 174. \$12.50, paper. ISBN 0-300-03601-7.

JEL 87-0888

Presents a broad view of what the Manufacturing Studies Board of the National Research Council believes will be necessary to maintain a competitive U.S. manufacturing sector along with some of the major considerations manufacturers and government policy makers will face in the implementation of policies. Recognizes diversity in manufacturing, including technological needs, management and labor relations, and relative competitive positions. Examines the role of technology, changes in the management of people and organization design, and considerations for government in future manufacturing policies. Notes three powerful trends that are causing a revolution in manufacturing: worldwide manufacturing capabilities, advances in technology, and changes in traditional management-labor practices, organizational structures, and decision-making procedures. Concludes that many of the advanced technological systems can be implemented currently and must be implemented soon for competitiveness to result. Appendices contain a description of the technology of future manufacturing and policy recommendations of panels and commissions, 1979-85. Bibliography; index.

REES, JUDITH AND ODELL, PETER, eds. *The international oil industry: An interdisciplinary perspective*. New York: St. Martin's Press, 1987. Pp. xii, 181. \$35.00. ISBN 0-312-00242-4.

JEL 87-0889

Nine papers on the factors influencing the international oil market and its interrelationships with other elements in the world political economy. Contributors include academic commentators and experts from oil companies and governments, who bring together views of economics, law, political science, international relations, and geography. Outgrowth of a seminar series on oil conducted at the London School of Economics. Essays discuss international oil issues and perspectives, the structure of the oil industry, the international community, the economics of the international oil industry, the international legal structure of petroleum exploitation, status and strategies of the international oil corporations, European oil and gas issues, oil funding and international financial markets, and

a third world perspective on petroleum. Conclusion consists of short comments on the issues raised representing the varying disciplinary perspectives. Rees is Senior Lecturer in Geography at the London School of Economics and Political Science. Odell is Director of the Centre for International Energy Studies at Erasmus University, Rotterdam, and a Visiting Professor at the London School of Economics. Index.

U.S. PRESIDENT. *The state of small business: A report of the President: transmitted to the Congress May 1986; together with the annual report on small business and competition of the U.S. Small Business Administration*. Washington, D.C.: U.S.G.P.O., 1986. Pp. xxiv, 316. Paper.

JEL 87-0890

Fifth annual report by the President to Congress on the state of small business. Report is divided into four chapters as follows: (1) the State of Small Business, discussing formations, closings, earnings, job growth, composition of the sector, and changes; (2) Small Business Financing, emphasizing sources and uses of funds, financing patterns, equity financing of larger small businesses and new venture-type enterprises, and recent financing developments; (3) Veterans in Business, examining federal assistance, demographic characteristics of veterans, characteristics of veteran-owned businesses and their owners, veteran's participation in self-employment, and financial success; and (4) Self-employment as a Business, focusing on growth, characteristics, gender, and income. Appendices deal with female and minority owned businesses, changing characteristics of workers and business size, procurement, and dimensions of small business. Glossary; index.

VELLAS, FRANÇOIS. *Economie et politique du tourisme international (Economics and policy of international tourism)*. Paris: Economica; distributed in North America by Diffuseur G. Vermette, Boucherville, Quebec, 1985. Pp. 306. Fr.125.00; Can\$ \$34.95, paper. ISBN 2-7178-1011-0.

JEL 87-0891

Applies standard instruments of economic analysis to the study of international tourism, particularly cost/benefit of tourism policies with respect to balance of payments, job creation, capital movements and investments. Macroeconomic policies are evaluated in terms of tourism planning and social tourism objectives in industrial and third world countries. The author presents numerous tables and graphs, using recent international data. Vellas is a professor at the University of Toulouse. Bibliography; subject index. [Jean Mirucki]

See also: Book Numbers JEL 87-0703, 87-0713, 87-0731, 87-0824, 87-0851, 87-0877, 87-0883, 87-0800, 87-0912, 87-0915, 87-0918, 87-0940, 87-0948

700 Agriculture; Natural Resources

710 AGRICULTURE

BALE, MALCOLM D., ed. *Horticultural trade of the expanded European community: Implications for Mediterranean countries*. World Bank Country Study series. Washington, D.C.: World Bank, 1986. Pp. x, 274. \$15.00, paper. ISBN 0-8213-0754-1. JEL 87-0892

A partial outgrowth of two symposia held in October 1984, one at the World Bank and the other at the Food and Agriculture Organization in Rome. Three papers address two important problems faced by countries, especially Mediterranean, that are looking to agriculture as a source of foreign exchange and are seeking to produce high value crops. The first, these countries must be aware of similar plans by other nations to avoid market saturation and second, as the EEC expands southward to include Greece, Portugal, and Spain, the products of these nations will compete with those of other Mediterranean-rim producers. After an overview describing the development of horticulture trade, the EEC trade system, and World Bank projects, the role of fruits and vegetables in the EEC is described. Outlines the methodology used in projecting price and trade changes and gives the results for twenty products—ten for vegetables (annual crops) and ten for fruit (perennials). The third paper presents a case study of the impact of EEC enlargement on fruits and vegetables. Develops a model to project future patterns of production, consumption, trade, and exports. Bale is with the Country Policy Department, the World Bank. No index.

BAUM, WARREN C. *Partners against hunger: The consultative group on international agricultural research*. With the collaboration of MICHAEL L. LEJUENE. Washington, D.C.: World Bank for the Consultative Group on International Agricultural Research, 1986. Pp. xiii, 337. \$29.95, cloth; \$10.95, paper. ISBN 0-8213-0828-9, pbk.

JEL 87-0893

History of the Consultative Group on International Agricultural Research (CGIAR). Traces the origins of modern agricultural research and the formation of several international agricultural research centers. Examines the initiatives for mobilizing the aid community during 1969-1971 leading up to the formation of CGIAR. Outlines the process

of formulating and consolidating the system during the succeeding years and highlights the roles, successes, and failures of different centers and organizations under CGIAR. Reviews the evolution of CGIAR between 1971-85 in terms of changes in the organization's internal structure as well as its impact on agricultural techniques and yields. Describes the organization, management, and governance of the CGIAR centers. Discusses research priorities, funding, organization, participation and international status. Concludes with an evaluation of the impact and replicability of CGIAR. Baum is a vice president of the World Bank. Index.

DANTWALA, M. L., ET AL. *Indian agricultural development since independence: A collection of essays*. New Delhi: Oxford and IBH, 1986. Pp. viii, 519. Rs. 135. ISBN 81-204-0118-2. JEL 87-0694

Twenty-one papers, specially contributed by senior agricultural economists in India, review developments in agriculture in India since the initiation of planning and highlight major policy issues that have arisen in the process of plan implementation. Ten papers consider the strategy of agriculture since independence, the role of agriculture in the national economy, agrarian structure and agrarian relations, irrigation and water use, the pace and pattern of the growth of agricultural production, technological development, animal husbandry, and allied enterprises (poultry, fisheries, and forestry). Six papers discuss institutional aspects of saving and capital formation in the agricultural sector, credit for agriculture and rural development, marketing, public intervention in agricultural marketing, price policy and terms of trade, and farm prices. The remaining five papers examine taxation and subsidies, agricultural labor and rural employment, trade in agricultural commodities from 1960 to 1990, rural development approaches and issues, and rural development administration. Dantwala is Professor Emeritus, Department of Economics, University of Bombay. Index.

DESAI, PADMA. *Weather and grain yields in the Soviet Union*. Research Report series, no. 54. Washington, D.C.: International Food Policy Research Institute, 1986. Pp. 94. Paper. ISBN 0-89629-055-7. JEL 87-0695

Analyzes the extent to which Soviet grain yields are affected by weather as opposed to other factors more susceptible to manipulation by policy. The focus is on the four republics in the Soviet grain belt (the Ukraine, Belorussia, Kazakhstan, and the Russian Republic) and the unit of analysis is the oblast. Estimates weather-yield models that use grain yields from 1958-75 and precipitation and

temperatures in the critical months of the crop cycle and then estimates the weather variability of yield for the country as a whole from 1955 to 1982. Finds that weather has had only a moderately large effect on yield variation and that policy and systemic effects on yield became larger between 1968 and 1982 with agricultural policy changes. Also discusses the possible conflict between the importation of increasing amounts of grain by the Soviets and the import needs of grain deficit developing countries. Desai is a professor in the Economics Department and in the Harriman Institute, Columbia University. Bibliography; no index.

JARVIS, LOVELL S. *Livestock development in Latin America*. Washington, D.C.: World Bank, 1986. Pp. x, 214. \$10.95, paper. ISBN 0-8213-0756-4. JEL 87-0696

Study of Latin American livestock sector development commissioned by the World Bank in 1982. Presents empirical data and discusses economic policy issues, focusing on the beef and dairy industries. Examines meat and milk consumption in Latin America, livestock production, international trade in Latin American livestock products, World Bank lending for livestock projects, and the role of the government and the livestock sector. Identifies future issues in the development of the livestock sector as protection, uncertainty, and instability in world beef markets; the tradeoff between producer and consumer welfare; domestic milk production and milk imports; dual-purpose cattle production; the control and eradication of foot and mouth disease; the improvement of pastures; research; livestock development in the Amazon Region; improved technical assistance programs; and animal and product grading. Jarvis is Associate Professor, Department of Agricultural Economics, University of California, Davis. Bibliography; index.

JIGGINS, JANICE. *Gender-related impacts and the work of the international agricultural research centers*. Consultative Group on International Agricultural Research (CGIAR) Study Paper, no. 17. Washington, D.C.: World Bank, 1986. Pp. x, 95. \$5.00, paper. ISBN 0-8213-0840-8. JEL 87-0697

Studies the work of the International Agricultural Research Centers (IARCs) and the impact of technical change in agriculture on women. Begins by considering why gender issues matter. Finds increasing evidence from agricultural project and program evaluations that insufficient attention to gender issues has tended to reinforce inequities that hold productivity and welfare below their potential. Notes that major socioeconomic changes

are affecting patterns of household formation and obligations, shown by differential scales of male/female migration, increasing number of single households headed by women in the remote and poorer areas, and the growth of female headed households. Finds that female production is substantial, but undercounted and undervalued. Criticizes the IARCs for being too conservative, hesitant, and cautious with respect to gender issues. Parts 2 and 3 examine questions and describe the methodology. Discusses three main areas of concern: gender based barriers to female access to extension services, differentials in male/female professional agricultural education and training, and the tendency for knowledge about female roles in the food system to be ignored. Uses three geographical areas for empirical analysis—Asia, Latin America and the Caribbean, and sub-Saharan Africa. Jiggins is a rural development consultant residing in the Netherlands. Bibliography; no index.

MAUNDER, ALLEN AND RENBORG, ULF, eds. *Agriculture in a turbulent world economy: Proceedings of the nineteenth international conference of agricultural economists, held at Málaga, Spain, 26 August–4 September 1985*. Aldershot, England and Brookfield, Vt.: Gower, 1986. Pp. xvi, 820. \$55.95. ISBN 0-566-05225-3. JEL 87-0898

Sixty-six papers and discussions presented at an international conference of agricultural economists. The opening addresses deal with the relationship between food, economics, and entitlements and the scope of agricultural economics. In nine parts dealing with the forces shaping the future of agricultural development; the nature of the growing interdependencies and uncertainties in the world economy and their implications; the challenges of balancing overproduction and malnutrition; the conflicts created by increasing pressure on natural resources; the role of human capital, technology, and institutions; the structure of agriculture and people in rural societies, the nature of agricultural markets and trade; recent theoretical developments; and implications for policy and research. A synoptic paper discusses the status and state of agricultural economics. The contributors are mainly agricultural economists. Maunder is associated with the Institute of Agricultural Economics at the University of Oxford. Renborg is a member of the Department of Economics and Statistics, Swedish University of Agricultural Sciences, Uppsala. Index.

MELLOR, JOHN W.; DELGADO, CHRISTOPHER L. AND BLACKIE, MALCOLM J., eds. *Accelerating food production in sub-Saharan Africa*. Baltimore and London: Johns Hopkins University Press for the

International Food Policy Research Institute, Washington, D.C., 1987. Pp. xix, 417. \$39.50. ISBN 0-8018-3390-6. JEL 87-0899

Twenty-eight papers presented at a conference on accelerating food production in Africa in Victoria Falls, Zimbabwe, in August 1983. Part 1 defines the food and nutrition problem in sub-Saharan Africa in terms of production and nutritional needs. Part 2 outlines potential and practice in food production technology development. Part 3 deals with support systems for agricultural development. Part 4 examines food policy in the context of national development strategies. Part 5 assesses donor assistance strategies and part 6 presents priorities for accelerating food production growth in sub-Saharan Africa. The contributors are mainly economists. Mellor is Director and Delgado is Co-coordinator of African Research both at the International Food Policy Research Institute in Washington, D.C. Blackie is Professor of Agricultural Economics at the University of Zimbabwe. Index.

MUNASINGHE, MOHAN. *Rural electrification for development: Policy analysis and applications*. Boulder, Colo. and London: Westview Press in cooperation with the State University of New York, Stony Brook, Institute for Technology Policy in Development, 1987. Pp. xxiii, 440. \$36.50, paper. ISBN 0-8133-0088-6. JEL 87-0900

Explains how rural electrification may be used effectively to improve the quality of life in third world nations. Introduces rural electrification and provides an national perspective on rural electrification policy. Reviews project evaluation and benefit measurement and examines power system optimization and choice of technology. Considers distribution system losses, and engineering standards and design criteria. Examines demand analysis and pricing policy. Presents case studies of policy analysis in Indonesia and Brazil, pricing policy and project evaluation in Malaysia, optimization of supply quality in Costa Rica, and optimization of reliability and losses in India. Concludes with an evaluation of decentralized rural energy supply technologies. Munasinghe is head of Energy Policy Development at the World Bank. Bibliography; index.

OYEJIDE, T. ADEMOLA. *The effects of trade and exchange rate policies on agriculture in Nigeria*. Research Report series, no. 55. Washington, D.C.: International Food Policy Research Institute, 1986. Pp. 61. Paper. ISBN 0-89629-056-5. JEL 87-0901

Examines the effects of economy-wide trade and exchange-rate policies on agriculture and the extent to which Nigeria's oil boom has adversely af-

affected both food and export-crop components of agriculture. Focuses on the period from 1960-82, looks at the degree of protection granted to agriculture compared to other sectors, and assesses how these policies affected the allocation of resources both within agriculture and among the other sectors. Specific topics include: an overview of the structure and growth of Nigerian agriculture, a survey of economic policies, use of agricultural price interventions and incentives, application of models of the Dutch Disease phenomenon to the Nigerian situation, and the effects of trade and exchange-rate policy responses on Nigerian agriculture. General conclusions are that the oil boom adversely affected Nigeria's agriculture and that both the Dutch Disease phenomenon and the trade and exchange-rate regime taxed rather than protected agriculture. Oyejide is head of the Department of Economics, University of Ibadan, Nigeria. Bibliography; no index.

PUTTERMAN, LOUIS. *Peasants, collectives, and choice: Economic theory and Tanzania's villages*. Contemporary Studies in Economic and Financial Analysis: An International Series of Monographs, vol. 57. Greenwich, Conn. and London: JAI Press, 1986. Pp. xviii, 389. \$24.75. ISBN 0-89232-684-0.

JEL 87-0902

Examines the role of economic motivation in influencing the evolution of the village-level economy in Tanzania and analyzes problems encountered in Tanzania's aim to transform itself into a nation of rural, collective villages. Explores the voluntary collectivization hypothesis, i.e., that peasant transition to collective agriculture can take place without external coercion when it is in the peasants' individual and joint interests, and develops a formal model of the economic structure of a transitional village community of the voluntary, gradualistic, and democratic type proposed by ex-President Julius Nyerere for Tanzania. Analyzes the individual and collective choice dimensions of the transition from peasant to collective agriculture and tests the applicability of the theoretical framework. The conclusion discusses organizational and motivational problems, social oppositions existing at the local and national political economy levels, and economies of scale problems. Putterman is in the Department of Economics, Brown University. Index.

ROBERTSON, A. F. *The dynamics of productive relationships: African share contracts in comparative perspective*. Cambridge; New York and Melbourne: Cambridge University Press, 1987. Pp. xix, 321. \$44.50. ISBN 0-521-32834-9.

JEL 87-0903

Focuses on share contracting in which two or more parties agree to combine their privately held resources in a productive enterprise and share the output in prearranged proportions. Argues that given the inherent instability of the family as a productive unit and many centuries of erratic economic growth worldwide, certain relations of production, including share contracting, have taken root because they are flexible and adaptable. Notes importance of sharecropping in agriculture because it extends the limits of production beyond the capabilities of a single family while spreading risks. Argues that empirical inquiry into this practice in Asia and Latin America reveals that sharecropping can accommodate innovation readily, produce high yields, and help redistribute productive resources and wealth. Examines four African cases—Ghana, the Sudan, Lesotha, and Senegambia—to explain how these arrangements have mediated between the needs and capacities of farming households, the demands of subsistence and profitable investment, and the leveling processes of resource redistribution, and the resolution of rural society into discrete classes. Contrasts African experience with other areas. Robertson is at the University of California, Santa Barbara. General and regional bibliography; Index.

SARMA, J. S. *Cereal feed use in the third world: Past trends and projections to 2000*. Research Report series, no. 57. Washington, D.C.: International Food Policy Research Institute, 1986. Pp. 68. Paper. ISBN 0-89629-058-1.

JEL 87-0904

Analyzes past trends in the use of cereal feeds in 104 developing countries and relates these to past trends in the output of livestock products. Discusses the cereal feed situation in 1980 and trends in cereal feed use. Examines the growth in cereal feed use in Taiwan and the Republic of Korea, and the dynamics of demand for food and feedgrains in selected developing countries. Provides a projection of cereal feed use to the years 1990 and 2000 using five alternative approaches. Concludes that with the continuation of past trends in production and per capital income, developing countries (excluding China) would have an overall net food deficit of 76 million tons of basic food staples, including cereals and other major food crops, by the end of the century. Sarma is a research fellow at the International Food Policy Research Institute. Bibliography; no index.

SCOTT, GREGORY J. *Marketing Bhutan's potatoes: Present patterns and future prospects. A potato marketing/demand case study*. Lima: International Potato Center (CIP), 1983. Pp. vii, 80. \$2.00, paper.

JEL 87-0905

Marketing survey of Bhutanese potatoes conducted in India, Bangladesh, and Bhutan in October and November 1982. Describes the role of potatoes in the economic development of Bhutan; focuses on potato production and consumption, prevailing marketing patterns, and government institutions and marketing policies. Presents an analysis of existing foreign and domestic marketing patterns and assesses constraints and prospects for table and seed potatoes produced by Bhutan. A general conclusion is that greater potato production and marketing can help Bhutan meet its development goals of achieving food self-sufficiency and raising farmers' incomes. Contains recommendations pertaining to: market promotion, information, and research; market infrastructure, administration, and personnel; and marketing policy and food self-sufficiency. Scott is a potato marketing specialist, International Potato Center, Lima. No index.

UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE, FAO/ECE AGRICULTURE AND TIMBER DIVISION. *Agricultural review for Europe series, no. 28, 1984 and 1985. Volume 1. General review.* U.N. Sales Publication No. E.86.II.E.14. New York: United Nations, 1986. Pp. iii, 81. \$9.50, paper. ISBN 92-1-116361-7. JEL 87-0906

Presents 1985 available data or provisional estimates of agricultural developments and indices for changes between 1984 and 1985 for individual countries, the EEC, and CMEA. Contains a summary review, twenty-one summary tables for several countries in Western Europe and Eastern Europe as well as Canada and the United States, and an overview of agricultural policy developments in the ECE region. Provides information about agricultural holdings and active agricultural population, value and volume of production, area under grains, grain yields, total grain production, and potato, sugar beet, vegetable and fruit, wine and oilseed, fiber crop, feed, livestock, meat, milk and dairy products, and eggs and wool production as well as agricultural prices and net product and agricultural trade. The policy overview considers policy aims and objectives, medium- and long-term plans, orientation of production, price policy, agricultural inputs, energy, income support, promotion of investments, land and other structural policies, organization of producers and production, marketing and market organization, education, training, research, and social, environmental, and trade policies. Also available in French, Russian, and Spanish. No index.

ZAMOSC, LEON. *The agrarian question and the peasant movement in Colombia: Struggles of the National Peasant Association, 1957-1981.* Cambridge Latin American Studies series, no. 58. Cambridge:

New York and Melbourne: Cambridge University Press; Geneva: United Nations Research Institute for Social Development, 1986. Pp. xx, 289. ISBN 0-521-32010-0. JEL 87-0907

Analysis of the Colombian peasant movement during the 1970s. Details the historical antecedents of the agrarian question and traces the structural contradictions that emerged after the civil war. Explores the political environment for the emergence of a peasant movement in the 1960s and the events leading to the creation of the Asociación Nacional de Usuarios Campesinos (ANUC). Discusses the development of the peasant movement, the role of ANUC during the land invasions in 1971, the subsequent evolution of the movement, and the role of repression and state policy as well as the politicization of the struggle. Examines the changes in the peasant's strategy as a result of broad socio-economic changes and the factors leading to the decline and final crisis in the peasant movement. Assesses the outcome of this crisis in the early 1980s and the overall effect of the movement. Zamosc is with the Department of Sociology at the University of California, San Diego. Bibliography; index.

ZIN, KYAW. *Burma and the CGIAR centers: A study of their collaboration in agricultural research.* Consultative Group on International Agricultural Research (CGIAR) Study Paper, no. 19. Washington, D.C.: World Bank, 1986. Pp. xiv, 105. \$5.00, paper. ISBN 0-8213-0861-0. JEL 87-0908

Studies the collaboration between International Agricultural Research Centers (IARCs) and the agricultural research system in Burma. Main objectives are to review the collaboration between the Consultative Group on International Agricultural Research (CGIAR) and the IARCs; to assess how international inputs have contributed to national research capacity; to evaluate the relevance of training programs; to summarize the impact on food production; and to describe how technological changes have been transmitted to farmers. Describes the country, its geography, political environment, and population, and reviews the agricultural sector, focusing on the infrastructure, performance, and pricing. Discusses the research system and its impact on a variety of crops. Zin is former Vice Chancellor of the Institute of Agriculture at Yezin, Burma. No index.

See also: Book Numbers JEL 87-0902, 87-0904, 87-0923, 87-0931, 87-0932

720 NATURAL RESOURCES

[ADELMAN, M. A.] *Energy: Markets and regulation. Essays in honor of M. A. Adelman.* Edited by

RICHARD L. GORDON, HENRY D. JACOBY, AND MARTIN B. ZIMMERMAN. Cambridge, Mass. and London: MIT Press, 1987. Pp. xxi, 394. \$37.50. ISBN 0-262-07103-7. JEL 87-0909

Thirteen papers written by former students and current colleagues in honor of Morris A. Adelman for his contributions to the understanding of industrial organization and antitrust policy, the economics of natural resource discovery, and the world petroleum market. Papers focus on energy regulation, world energy markets, oil and gas supply, and energy demand. Topics include: adapting to change in natural gas markets in the United States, U.S. oil policies and Canadian oil pricing, coal policy in major producing countries, the evolution of civilian nuclear power in the U.S., the record of the Environmental Protection Agency in controlling industrial air pollution, public policy and the private automobile, the evolution of oil as a commodity, cartel theory and experience in international minerals markets, tax developments in the world oil market, oil tanker markets, oil and gas resource and supply assessment, cost and output analysis in mineral and petroleum production, and a survey of research about relationships between energy price shocks and productivity growth. The contributors besides the editors, are mainly economists and management specialists. Gordon is Professor of Mineral Economics, Pennsylvania State University. Jacoby is Professor of Management, Massachusetts Institute of Technology. Zimmerman is Associate Professor of Economics, University of Michigan. Index.

BROWN, LESTER R., ET AL. *State of the world 1987: A Worldwatch Institute report on progress toward a sustainable society*. Edited by LINDA STARKE. State of the World series. New York and London: Norton, 1987. Pp. xvii, 268. \$18.95, cloth; \$19.95, paper. ISBN 0-393-30389-6, pbk.

JEL 87-0910

Eleven articles highlight the risks that confront societies and indicate avenues for preemptive policies and actions. Topics include thresholds of ecological change, divergences in population growth, the future of urbanization, reassessing nuclear power particularly after Chernobyl, electrifying the third world, the potential of recycling, sustaining world agriculture, raising agricultural productivity, stabilizing chemical cycles, and designing and charting a sustainable economic course. Problems examined include pollution and gas emissions, absorption of waste, and the effect of privatization on the efficiency of resource use. Authors are staff members of the Worldwatch Institute. Index.

COHEN, FAY G. *Treaties on trial: The continuing controversy over Northwest Indian fishing rights*.

With contributions by JOAN LA FRANCE AND VIVIAN L. BOWDEN. Introduction by ANDY FERNANDO. Seattle and London: University of Washington Press for the American Friends Service Committee, Seattle, 1986. Pp. xxvi, 229. \$20.00, cloth; \$9.95, paper. ISBN 0-295-96268-2, pbk.

JEL 87-0911

Describes the circumstances leading to the Boldt Decision resulting from the United States versus Washington, a 1974 legal case, which recognized tribal rights to half the harvestable salmon destined for traditional fishing places in Washington state waters and assesses its consequences and significance. Considers the evolution of events leading up to Judge Boldt's ruling, the 1979 U.S. Supreme Court affirmation of the decision, problems with implementing the ruling, the negotiations involved in resolving the more recent Indian fishing controversy on the Columbia River, environmental threats to the salmon resource, and how the tribes and fish are faring today given the narrow passage of Initiative 456 that would declare treaty rights unconstitutional. Cohen is Associate Professor, Institute for Resource and Environmental Studies, Dalhousie University, Halifax, Nova Scotia. Index.

CAUGH, G. J. *The development of the Australian tuna industry*. Research Monograph series, no. 24. Sydney: University of Sydney, Transnational Corporations Research Project, 1987. Pp. 97. Paper. ISBN 0-908470-73-8. JEL 87-0912

Part of the Pacific Islands Development Program project entitled Multinational Corporations in the Pacific Tuna Industry, supported by the East-West Center in Honolulu and the United Nations Development Programme. Divided into three parts: the development of the industry and the evolution of government policies; corporate involvement in the fishing and processing sections; and the retail market for tuna in Australia. Finds that increased involvement of the federal government in fisheries management has resulted in many arrangements incorporating a high degree of national and international cooperation with the intent of stabilizing the industry and preserving the resource. Presents a detailed accounting of the industry, beginning in 1936 and 1938 with the establishment of small canneries. Reviews government policies such as the use and end of limited entry, quotas, and negotiations with the United States and Japan. Cough is Research Fellow in the Transnational Corporations Research Project. No index.

FREDERICK, KENNETH D., ed. *Scarce water and institutional change*. With the assistance of DIANA C. GIBBONS. Washington, D.C.: Resources for the Future; distributed by Johns Hopkins University

Press, 1986. Pp. xii, 207. ISBN 0-915707-21-7.
JEL 87-0913

Examines alternative ways for meeting long-term water needs in the United States. Contains water management case studies that focus on areas experiencing problems with projected water needs or with allocating scarce supplies among competing uses (Pacific Northwest; Kern County, California; the coastal area of southern California, and south-eastern Virginia) and on an innovative institutional arrangement (the Colorado-Big Thompson Project). Case studies consider: the role of institutional factors, especially water laws and administrative arrangements, in creating and solving a region's water problems; the factors that promote or inhibit flexibility for responding to changing water supply and demand; the potential role of markets and prices for allocating scarce water supplies and creating incentives to conserve water; and institutions and conditions that encourage water marketing. The overview chapter by the editor highlights principal factors that influence how a nation uses and abuses its waters, important issues in need of resolution, and the role of water markets; also contains comments on the lessons to be learned from the case studies. The contributors are mainly economists and environmental resources specialists. Frederick is Senior Fellow and Director of the Renewable Resources Division, Resources for the Future Inc., Washington, D.C. Gibbons is a consultant to the World Resources Institute on the Arid Lands Project. Index.

GIBBONS, DIANA C. *The economic value of water*. Washington, D.C.: Resources for the Future; distributed by Johns Hopkins University Press, 1986. Pp. xii, 101. Paper. ISBN 0-915707-23-3.

JEL 87-0914

Provides a framework for understanding water values and summarizes empirical evidence of the value of water according to different uses. Examines the demand for and value of water use in the United States in seven different sectors, i.e., municipalities, irrigation, industry, waste assimilation, recreation and aesthetics, navigation, and hydropower. Explores the conceptual basis for water values in each sector as well as the methods of estimating those values. Also presents values calculated for the present study. Each sector analysis chapter concludes with comments and caveats about the estimates and a discussion of policy issues. The epilogue comments on the lack of legal and institutional mechanisms for facilitating transfers between uses that perpetuate economic inefficiencies. Gibbons is a consultant to the World Resources Institute on the Arid Lands Project. No index.

KLAPP, MERRIE GILBERT. *The sovereign entrepreneur: Oil policies in advanced and less developed capitalist countries*. Cornell Studies in Political Economy series. Ithaca and London: Cornell University Press, 1987. Pp. 244. \$27.50. ISBN 0-8014-1997-2.

JEL 87-0915

Provides a comparative national perspective on oil politics, particularly from 1960 to 1985. Complements product cycle and international bargaining theory, which focuses mainly on international relations among multinational corporations, banks, and governments. Examines the role of the state mainly at the national level, focusing on the struggles of international actors in domestic business, labor, political parties, and special interest groups. Draws from bureaucratic theory on the politics of management, budget, and allocation of property rights within the state. Emphasizes the capacity of the state to pursue policy objectives through state enterprises, as an answer to why governments in seventy-four countries have become entrepreneurs in the oil industry. Evidence is drawn primarily from case studies of Norway, Britain, Indonesia, and Malaysia, in which representatives of government, international organizations, industry associations, corporations, and trade unions were interviewed. Concludes with a discussion of perspectives on the role of the state. Klapp is Assistant Professor of Urban Studies and Planning at the Massachusetts Institute of Technology. Index.

MCCOLL, G. D. *Energy and economic development: The world and South East Asia*. Center for Applied Economic Research, CAER Paper series, no. 23. Kensington, Australia: University of New South Wales, 1986. Pp. 83. Paper. ISBN 0-85823-584-6.

JEL 87-0916

Reviews world energy trends and projections related to the demand for and supply of major forms of energy since the 1973 increase of crude oil prices by OPEC. Highlights trends in energy consumption, i.e., oil's declining share relative to coal, natural gas, and uranium; changes in international trade between producers and consumers; and changes in reserve/production ratios. Examines energy developments, projections, and forecasting assumptions of energy demand for the OECD countries and for the less developed countries of Southeast Asia (Brunei, China, Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan, and Thailand). Overviews prospects for world energy consumption, production, and trade until the year 2000. Concludes with a review of the major uncertainties associated with projections of future demand and supply. The Southeast Asia section relies on papers presented at the World Energy Conference's Southeast Asia and Pacific Regional Symposium,

1986. McColl is Research Associate, Center for Applied Economic Research, University of New South Wales. No index.

RUSSELL, CLIFFORD S.; HARRINGTON, WINSTON AND VAUGHAN, WILLIAM J. *Enforcing pollution control laws*. Washington, D.C.: Resources for the Future, 1986. Pp. xiii, 231. ISBN 0-915707-25-X.

JEL 87-0917

Describes the current state of air and water pollution monitoring and enforcement activity. Addresses two major questions; what type and how much monitoring is being done? and what enforcement policies are being pursued? Discusses the legal and technological aspects of monitoring and enforcement, addressing questions such as how the law has dealt with statistical errors, how entry may be gained to a polluter's premises, how off-premises monitoring equipment is used, and the costs of monitoring. Examines the economics of monitoring and enforcement. Discusses statistical problems as associated with quality control and willful noncompliance. A major conclusion is that the emphasis in law and regulation on achieving the installation of treatment technologies (initial compliance) has been overdone and that measures of actual performance are needed. Russell is Director of the Vanderbilt University Institute for Public Policy Studies. Harrington is a Fellow at Resources for the Future. Vaughan is an economist with the Inter-American Development Bank. Index.

UNITED NATIONS DEPARTMENT OF INTERNATIONAL ECONOMIC AND SOCIAL AFFAIRS. *Methodologies for assessing the impact of deep sea-bed minerals on the world economy*. U.N. Publication Sales No. E.86.II.A.13. New York: United Nations, 1986. Pp. ix, 153. \$16.50, paper. JEL 87-0918

Considers economic and technical issues related to the development of marine mineral resources in connection with the role of nonrenewable resources and their impact on the economies of developing countries as well as on the world economy. Centers on materials and papers submitted to, and resulting from, an Expert Group Meeting on the Impact of Sea-Bed Minerals on the World Economy convened at the U.N. Headquarters in New York in January 1983. Part 1 contains an analysis of the impact of sea-bed minerals on the world economy; part 2 is the Expert Group report and recommendations. Some specific topics are: the role of the metals contained in sea-bed minerals within the world economy; potential impact of price and production costs, location of mining, distribution of costs and benefits, and trade patterns of sea-bed minerals on the world economy; and issues and perspectives related to the development

of a quantitative framework for analyzing their potential impact. Also available in French, Russian, and Spanish. Bibliography; no index.

UNITED NATIONS DEPARTMENT OF TECHNICAL CO-OPERATION FOR DEVELOPMENT, FOOD AND AGRICULTURE ORGANIZATION. *Water resources legislation and administration in selected Caribbean countries*. Natural Resources/Water Series, no. 16. U.N. Publication Sales No. E.86.II.H.2. New York: United Nations, 1986. Pp. iv, 171. \$16.50, paper. ISBN 92-1-123105-1. JEL 87-0919

Examines the legal and institutional issues involved in the development, conservation, and use of water resources in smaller English-speaking Caribbean islands of Antigua and Barbuda, the Cayman Islands, Montserrat, St. Kitts and Nevis, and St. Vincent and the Grenadines, as well as the larger islands of Jamaica, the Dominican Republic, and Haiti. Considers: background and setting; current legislation pertaining to water resources; ownership and control status of water; priorities; right to use water; beneficial uses of the water supply; harmful effects of water; waste, pollution, and mosquito control; legislation on groundwater resources; control and protection of waterworks and structures, protected areas; government water resources administration; autonomous and semi-autonomous water development agencies; financial aspects; and enforcement and implementation. Also available in French, Russian, and Spanish. No index.

UNITED NATIONS OFFICE OF THE SPECIAL REPRESENTATIVE OF THE SECRETARY-GENERAL FOR THE LAW OF THE SEA. *The law of the sea: National legislation on the exclusive economic zone, the economic zone and the exclusive fishery zone*. U.N. Publication Sales No. E.85.V.10. New York: United Nations, 1986. Pp. xv, 337. \$35.00, paper. ISBN 92-1-133272-9. JEL 87-0920

Presents relevant provisions of the U.N. Convention on the Law of the Sea on the exclusive economic zone (articles 55-75) adopted in 1982, and compiles the existing national legislation of seventy-eight countries pertaining to the exclusive economic zone, the economic zone, and the exclusive fishery zone, including declarations thereon. The introduction discusses the meaning and intention of the exclusive economic zone and settlement of disputes. Also available in French, Russian, and Spanish. No index.

VIETOR, RICHARD H. K. *Energy policy in America since 1945: A study of business-government relations*. Studies in Economic History and Policy, the

United States in the Twentieth Century series. Cambridge; New York and Melbourne: Cambridge University Press, 1984. Pp. xvii, 363. \$12.95. ISBN 0-521-33572-8. JEL 87-0921

Presents the history of fossil-fuel energy policy in the United States since World War II and provides a useful framework for understanding how business and government interact. Points out that government intervention has been the norm in the energy industries, affecting production, importation, and consumption, thereby fostering the energy conditions that prevail currently. Integrates the economics and public policy of the coal, petroleum, and natural gas industries along with developments in synthetic fuels. Presents analysis in three periods corresponding to conditions of energy supply and price that affected issues of public policy: 1945-58, during which the U.S. shifted from primary dependence on solid fuels to fluid fuels; 1959-68, a decade of relative stability in price and market share for the three fuels; and 1969-80, which witnessed the depletion of domestic reserves of petroleum and natural gas. Concludes that the government's domestic policies for fossil fuels generally failed resulting in reduced economic efficiency, temporary and misleading stabilization of markets, and little or no benefit to national security. Victor is a Professor in the School of Business Administration at Harvard University. Index.

WEYMAN-JONES, THOMAS G. *Energy in Europe: Issues and policies*. The Methuen EEC Series. London and New York: Methuen, 1986. Pp. xii, 176. \$55.00. ISBN 0-416-36590-6. JEL 87-0922

Presents a framework for the economic analysis of energy issues and policies from a European perspective, especially the European Economic Community (EEC), based on the assumption of unavoidable dependence on imported oil by the EEC. Presents a detailed review of the oil shocks, 1973-74, with rising real oil prices; 1979-80, with continued increases associated with the Iranian revolution; and 1982-86, with erosion in real oil prices. Discusses the consequent oil price movements and their effects on European economies, emphasizing the importance of differences between long- and short-run effects. Assesses the role of conservation and pricing policies. Examines the position of Europe as both a supplier and consumer in the world oil market. Discusses the economic, political, and social impact of investment in nuclear power, oil and gas discoveries (particularly North Sea), Soviet gas imports, and coal. Concludes with a projection of the evolving balance by the year 2000, noting that many issues in energy policy remain unresolved. Weyman-Jones is a Lecturer in Economics

at Loughborough University of Technology. Index.

See also: Book Numbers JEL 87-0814, 87-0824

730 ECONOMIC GEOGRAPHY

DAVIES, H. R. J., ed. *Natural resources and rural development in arid lands: Case studies from Sudan*. Tokyo: United Nations University, 1985. Pp. x, 84. \$10.00, paper. ISBN 92-808-0504-5. JEL 87-0923

Four case studies examine the results of the effort for agricultural development in Sudan. Each study considers a current problem in the use of natural resources in the semi-arid lands and examines the participants' reactions to particular changes or aspects of the environment. Topics are: the production of dura (sorghum vulgare) in Sudan and the parasite huda (*Striga hermonthica*); the impact of improved rural water supplies in the East Kordofan district; wood resources and their use in the Nuba Mountains; and planners' and participants' perceptions of development in the semi-arid lands of Sudan with special reference to the Khashm el Girba Scheme. The conclusion by the editor summarizes the main factors found to inhibit rural change in the arid lands. The editor is Senior Lecturer, Department of Geography, University of Swansea, Wales. Glossary; no index.

See also: Book Numbers JEL 87-0711, 87-0760

800 Manpower; Labor; Population

810 MANPOWER TRAINING AND ALLOCATION; LABOR FORCE AND SUPPLY

COLLARD, BETSY A. *The high-tech career book: Finding your place in today's job market*. Los Altos, Calif.: Kaufmann, 1986. Pp. xiii, 273. Paper. ISBN 0-86576-095-0. JEL 87-0924

A guide to jobs and career opportunities in high-technology companies in the Silicon Valley, California. Aimed primarily at people without technical backgrounds, it provides information to aid them in transferring their skills and planning careers in high technology. Part 1 covers the organization of high-tech companies. Part 2 is devoted to careers in functional areas and includes discussion of careers in engineering, marketing, sales and service, operations, materials, finance, management information systems, human resources, and general administration. Part 3 discusses careers in writing, training, graphics and public relations. Part 4 outlines sources for obtaining job and company information and methods of getting started and moving industries. Collard is the Director of Employment

Services at the Resource Center for Women in Palo Alto, California. Glossary; index.

DEX, SHIRLEY. *Women's occupational mobility: A lifetime perspective*. New York: St. Martin's Press, 1987. Pp. xi, 157. \$27.50. ISBN 0-312-88789-2.

JEL 87-0925

Presents the results of an analysis of information from the *Women and Employment Survey* conducted in 1980. The Survey was the first systematic large-scale recording of female employment history over a lifetime span, containing employment histories of 5,320 women between ages 16 and 59. Indicates the importance of information about female employment to help resolve policy issues about equal opportunities for women and academic debates about the nature of women's careers and women's positions within the structures, relations, and processes of employment. Documents female employment by occupation, industry, labor market, and class. Examines the patterns of female employment over time and discusses female lifetime occupational mobility. Provides industrial profiles and investigates industrial mobility among females. Concludes with a discussion of the structure of women's careers. Dex is Lecturer in Economics at the University of Keele. Bibliography; index.

MALLIER, A. T. AND ROSSEN, M. J. *Women and the economy: A comparative study of Britain and the USA*. Foreword by BARONESS SEAR. New York: St. Martin's Press, 1987. Pp. xiii, 221. \$29.95. ISBN 0-312-88732-9.

JEL 87-0926

Summarizes statistical evidence and economic explanations of the changes in the women's labor force participation in Britain and the United States since 1900; emphasis is on the most recent research. Overviews long-term trends since 1900, i.e., changes in the industrial and occupational distribution of the female labor force and in the relationships between the growth of the female labor force, population increases, and other demographic changes. Examines factors that affect the demand and supply of female labor as well as equal opportunity and pay, part-time employment, unemployment, and the effects of new technology. Presents international comparisons of changes in the female labor force in free market industrialized economies and the Soviet Union. The final chapter surveys findings arrived at using the Marxian model of economic analysis. The authors are Senior Lecturers in Economics, Coventry (Lanchester) Polytechnic. Selected bibliography; author and subject indexes.

See also: Book Numbers JEL 87-0739, 87-0928, 87-0929, 87-0934, 87-0946

820 LABOR MARKETS; PUBLIC POLICY

ADAM, JAN, ed. *Employment policies in the Soviet Union and Eastern Europe*. Second revised edition. New York: St. Martin's Press, [1982] 1987. Pp. xviii, 224. \$30.00. ISBN 0-312-24463-0.

JEL 87-0927

A second edition, revised and updated, contains nine essays. Revisions reflect changes that have occurred in the five countries under review—the Soviet Union, Poland, East Germany, Czechoslovakia, and Hungary. [For annotation of the first edition, see JEL no. 83-0846.] The article on Poland contains the greatest amount of revision because of its experience with political and economic crises since the first edition. Two articles are new: one dealing with the role of pensioners coping with labor shortages in the U.S.S.R., especially since the number of pensioners is increasing, and the other a historical analysis of employment policies in Hungary. The contributors are mainly economists. Adam is Professor of Economics at the University of Calgary. Index.

GINZBERG, ELI. *Understanding human resources: Perspectives, people, and policy*. Lanham, Md. and London: University Press of America, Abt Books, 1985. Pp. xvii, 744. \$34.25. ISBN 0-8191-4860-5.

JEL 87-0928

Brings together representative pieces of research by the author, spanning half a century, focusing on the role of human resources. Divided into ten parts providing selections from most of the areas of human resources and manpower in which Ginzberg has been engaged. Topics include: economic doctrine and reality; career choice and performance potential; the unsuccessful, such as the unemployed; women, including women in the work force and reentry; older persons, reviewing early retirement and the social security system, blacks, noting their potential and career choices; technology and the changing economy, human resource management in large organizations; metropolitanism: focus on New York, and programs and policy including areas such as social programs, federal training, manpower, and the disadvantaged. Ginzberg is at Columbia University. Bibliography; index.

HUNT, H. ALLAN AND HUNT, TIMOTHY L. *Clerical employment and technological change*. Kalamazoo, Mich.: Upjohn Institute for Employment Research, 1986. Pp. x, 296. \$23.95, cloth; \$15.95, paper. ISBN 0-88099-043-2.

JEL 87-0929

Addresses concerns about clerical employment trends associated with office automation, particularly related to the displacing capabilities of the

new technology and the elimination of many traditionally female jobs. Raises questions about the decline, whether it has been associated with office automation or whether it was a coincidental happening along with other declining trends in the economy. Reviews clerical employment trends over the past thirty years, using indirect evidence on the impact of technology because direct data on capital inputs are not available. Specifically examines trends from 1950 to 1960 and from 1972 to 1982, assessing the impact of the first computer revolution of the 1960s and 1970s. Investigates the broad economic determinants of clerical employment, emphasizing structural changes. Concludes that the data are insufficient to make a final assessment of the impact of office automation on clerical jobs, especially since other influences with a simultaneous effect took place. The authors are on the staff of the W. E. Upjohn Institute for Employment Research. No index.

KNIGHT, K. G. *Unemployment: An economic analysis*. Totowa, N.J.: Barnes and Noble, 1987. Pp. 411. \$32.50. ISBN 0-388-20661-X. JEL 87-0930

Reviews theoretical developments and presents empirical evidence pertaining to the economics of unemployment with particular reference to the British experience. Concentrates on labor market disequilibrium as a stock of unemployment different from the natural rate. Analyzes the aggregate stock of unemployment and the problems associated with its measurement as well as its degree of concentration and the turnover within it. Considers various approaches that have been used to explain duration and the rate of inflow to unemployment. Examines the role of job search and discusses alternative macroeconomic approaches to the stock of unemployment, i.e., the classical and the nonmarket clearing (Keynesian and recent disequilibrium analysis). Presents the empirical evidence that has been used to support alternative ways of examining unemployment in excess of the natural rate. Considers the supply and demand sides of the natural rate of unemployment. Concludes with an examination of current and alternative economic policies and future prospects, which emphasizes the importance of designing a coordinated and complementary mix of policy instruments because there are multiple causes of unemployment. Knight is Lecturer, Department of Economics, University of Warwick. Bibliography; index.

SHAND, R. T., ed. *Off-farm employment in the development of rural Asia: Papers presented at a conference held in Chiang Mai, Thailand, 23 to 26 August 1983*. Volume 1. Canberra: Australian National

University, National Centre for Development Studies, 1986. Pp. xii, 367. Paper. ISBN 0-86784-713-1. JEL 87-0931

Thirteen papers consider the extent and implications of off-farm employment for the economic development of South, Southeast, and East Asia. Papers examine the relationship between off-farm employment and rural incomes, the rural-urban interface, the distribution of farm household incomes and productivity, and the current status and future prospects of off-farm employment in South Korea, Thailand, Indonesia, and rural Asia as well as policy guidelines and the potential for increasing employment and incomes. The contributors are economists. Shand is a member of the Department of Economics at the Research School of Pacific Studies at the Australian National University, Canberra. No index.

SHAND, R. T., ed. *Off-farm employment in the development of rural Asia: Papers presented at a conference held in Chiang Mai, Thailand, 23 to 26 August 1983*. Volume 2. Canberra: Australian National University, National Centre for Development Studies, 1986. Pp. vi, 249. Paper. ISBN 0-86784-729-8. JEL 87-0932

Eleven papers mainly present case studies of successes and failures at generating off-farm employment in South, Southeast, and East Asia. Topics include: off-farm employment in the Kemubu Project in Malaysia; evolution of sources of income in the Muda Irrigation Scheme; off-farm employment as an antipoverty strategy in Malaysia; composition, growth, and seasonality of such employment in the Philippines; impact of off-farm employment on labor utilization and earnings structure; off-farm employment in India, Bangladesh, and Sri Lanka; and the off-farm economic structure of growing regions—a study of Punjab. The contributors are economists. Shand is a member of the Department of Economics at the Australian National University, Canberra. No index.

TWENTIETH CENTURY FUND TASK FORCE. *The government's managers: Report of the Twentieth Century Fund Task Force on the Senior Executive Service*. Background paper by MARK W. HUDDLESTON. New York: Priority Press, 1987. Pp. ix, 88. \$10.00, paper. ISBN 0-87078-213-4. JEL 87-0933

Examines the problems facing the civil service, including the difficulties of attracting and keeping competent administrators. Focuses on suggested reforms for strengthening and enhancing the Senior Executive Service (SES). Background paper by Mark Huddleston presents a comprehensive review of the development of the U.S. civil service and the SES describing the nature of the service,

examples of types of jobs included, career and non-career relationships, the rewards, and its relationship to governmental performance. Indicates that the SES is in trouble, since many of its members have left federal employment because of low pay and inadequate promotion experience. Recommends that recruiting personnel should begin at the entry level of civil service jobs to allow for advancement into an elite SES. Endorses higher pay for these officials with managerial salaries substantially above other civil servants. Includes dissents and supplementary statements. Huddleston is at the University of Delaware. No index.

ISE, DAVID A., ed. *Public sector payrolls*. National Bureau of Economic Research Project Report series. Chicago and London: University of Chicago Press, 1987. Pp. ix, 327. \$40.00. ISBN 0-226-90291-9. JEL 87-0934

Ten papers presented at a conference held in Williamsburg, Virginia, in November 1984. Topics include: military and civilian pay; the debt and structure of military pensions; military hiring and youth employment; military enlistments and the youth labor market; military service and civilian earnings of youth; wages in the federal and private sectors; the responsiveness of public sector wages and employment to economic conditions; the incentive structures of local public pension plans; comparable worth in the public sector; and evidence from the National Longitudinal Study of the high school class of 1972 on academic ability, earnings, and the decision to become a teacher. Also contains an overview by the editor. The contributors are economists. Wise is John F. Stambaugh Professor of Political Economy at the John F. Kennedy School of Government, Harvard University. Author and subject indexes.

also: Book Numbers JEL 87-0667, 87-0704, 87-0705, 87-0710, 87-0793, 87-0853, 87-0883, 87-0884, 87-0927, 87-0930

830 TRADE UNIONS; COLLECTIVE BARGAINING; LABOR-MANAGEMENT RELATIONS

HOBADIAN, ABBY AND WHITE, MICHAEL. *Job evaluation and equal pay*. Department of Employment Research Paper series, no. 58. London: Policy Studies Institute, Department of Employment, 1986. Pp. 179. Paper. JEL 87-0935

Report of a study on job evaluation in Great Britain sponsored by the Department of Employment, London. Research included questionnaire interviews with managers responsible for evaluations as well as with employee representatives, sample data for male and female pay covered by the same job evaluation scheme, and miscellaneous

documents on the subject in 109 establishments. Describes the Equal Pay Act of 1970 and its Amendment in 1983. Discusses the background for job evaluation, job analysis, and administrative and operating arrangements. Finds that in general worker representatives approved of job evaluations and their implementation and administration and reaffirmed management's assertions that the procedure was a highly participative process. Ghobadian and White are staff members of the Department of Employment. No index.

JEFFERYS, STEVE. *Management and managed: Fifty years of crisis at Chrysler*. Cambridge, New York and Melbourne: Cambridge University Press, 1986. Pp. xiv, 290. \$29.95. ISBN 0-521-30441-5. JEL 87-0936

Focus is on workplace politics at Chrysler Corporation and its flagship Dodge main plant. Argues that the balance of power between management and the managed has been in contention throughout the last fifty years, challenging the view that the American labor movement is characterized by passivity. Addresses three key industrial relations issues: how management exerts its control over the labor process; how changes in management control are legitimized in workers' beliefs; and how particular traditions of workplace behavior and organization are created. Describes current theories of the development of the labor process and management control, emphasizing the development of the Union of Automobile Workers (UAW). Begins the story of Chrysler by showing how weak management and weak unionism produced a powerful shopfloor unionism. Traces the struggles over control by management and the union and how new challenges—such as the black movement—affected this balance. Relates many of the problems of open conflict to management failure under conditions of market pressure rather than to militancy of the labor force. Concludes that the organizational and economic weaknesses of Chrysler management compared to GM and Ford, rather than any generic peculiarities of Chrysler workers, led to its long record of bitter labor relations conflict. Jefferys is Senior Lecturer in the Economics and History Department at Manchester Polytechnic. Bibliography; index.

KUMAR, PRADEEP. *The current industrial relations scene in Canada, 1986*. With MARY LOU COATES AND DAVID ARROWSMITH. Kingston, Ontario: Queen's University, Industrial Relations Centre, 1986. Pp. xi, 358. \$100.00. ISBN 0-88886-140-0. JEL 87-0937

Annual volume that brings together a wide variety of recent reference material in industrial rela-

tions and provides an analysis of emerging issues. Divided into four parts: (1) a summary reviewing emerging industrial relations trends and patterns, covering topics such as the economic environment; the labor market environment; the public policy environment; the labor movement and trade unionism; the collective bargaining scene; and wages, productivity, and labor costs, including international comparisons; (2) reference tables that include technical notes and data sources supporting the topics treated in the summary; (3) a bibliography of information and data sources; and (4) abstracts from recent industrial relations literature. Kumar, Coates, and Arrowsmith are with the Industrial Relations Centre, Queen's University. Author index.

KUSACK, JAMES M. *Unions for academic library support staff: Impact on workers and the workplace*. New Directions in Information Management series, no. 10. New York and London: Greenwood Press, 1986. Pp. xi, 108. \$25.00. ISBN 0-313-24991-1. JEL 87-0938

Study of academic library support staff unions. Reviews the history of collective bargaining by support staff employees working in university libraries. Analyzes the effects of collective bargaining in different occupations with special reference to clerical and white collar employees. Discusses the implications of collective bargaining for compensation levels and potential shifts in productivity. Compares the compensation patterns, work policies, and other job-related characteristics of university libraries with support staff unions with those of libraries without such unions. Discovers no statistically significant differences in characteristics of libraries with and without support staff unionization. Evaluates current literature and provides suggestions for future research. Kusack is Assistant Professor at the School of Library Science and Instructional Technology at Southern Connecticut State University. Selected bibliography; index.

O'REILLY, JAMES T. *Unions' rights to company information*. Revised edition. With the assistance of JODI C. ARONSON. Labor Relations and Public Policy series, no. 21. Philadelphia: University of Pennsylvania, Wharton School, Industrial Research Unit, [1980] 1987. Pp. xiii, 312. Paper. ISBN 0-89546-060-2. JEL 87-0939

Revised, updated, and expanded version of a study that assesses the current status and effect of conflicting laws and regulations covering the right of individuals and organizations to obtain private information versus the right to maintain the privacy of such information. [For previous annotation see JEL no. 81-0236.] Reviews the nature of

disclosure. Discusses disclosure pursuant to the Taft-Hartley Act, focusing on the duty to disclose in the collective bargaining process, presumptively relevant data, in varying situations, the demonstration of relevance, financial disclosures and the employer's duty to substantiate, effects of the collective bargaining agreement on the duty to disclose, and employer defenses against the National Labor Relations Board. Examines the privacy issue including the employer-employee relationship and federal privacy legislation, and the privacy of employment and medical records. Discusses the Freedom of Information Act and the National Labor Relations Board as a source of safety and equality data. Concluding remarks examine the future prospects of information disputes and controversies. The author is a corporate attorney. Index of cases.

ROWAN, RICHARD L. AND BARR, ROBERT E. *Employee relations trends and practices in the textile industry*. Major Industrial Research Unit Studies series, no. 65. Philadelphia: University of Pennsylvania, Wharton School, Industrial Research Unit, 1987. Pp. xvii, 124. Paper. ISBN 0-89546-063-7. JEL 87-0940

Fourth contribution in the Wharton Industrial Research Unit pertaining to labor and personnel practices and policies in various industries in which unions are either losing ground or have failed to become a serious factor. Surveys employment trends, policies, and problems of the textile industry during the period 1981-85 in North Carolina, South Carolina, and Georgia. Includes discussion of wages, benefits, work scheduling, grievance procedures, and health and safety. Results are based primarily on data from surveys, questionnaires, and personal interviews, with a follow up study. Concludes that the future will witness more mergers, an increase in capital investment, and a decrease in numbers employed and efforts at unionization likely will be frustrated. Rowan is Co-director of the Industrial Research Unit, University of Pennsylvania. Barr is with a high technology firm in Massachusetts. Index.

See also: Book Numbers JEL 87-0702, 87-0710, 87-0722, 87-0723, 87-0852

840 DEMOGRAPHIC ECONOMICS

DAVIS, KINGSLEY, ed. *Contemporary marriage: Comparative perspectives on a changing institution*. In association with AMYRA CROSSBARD-SHECHTMAN. New York: Russell Sage Foundation, 1985. Pp. xiii, 432. \$29.95. ISBN 0-87154-221-8. JEL 87-0941

Sixteen papers, many of which were first presented at a conference at the Center for Advanced

Study in the Behavioral Sciences at Stanford, California, in August 1982, examine the meaning and significance of marriage in contemporary society. Eleven papers document trends with respect to age at marriage, permanent celibacy, cohabitation, single parenthood, divorce, wives' employment, and fertility primarily in the United States but also in other countries (France, Israel, Japan, China, and Southern Africa) as well as in the Mormon society. Other papers analyze divorce law revolution, new legal models of marriage and divorce, marriage squeezes and the marriage market, and emotional aspects of contemporary relations. Contributors are mainly sociologists and anthropologists; two are economists. Davis is Distinguished Professor of Sociology at the University of Southern California. Grossbard-Shechtman is Associate Professor of Economics, San Diego State University. Index.

MENKEN, JANE, ed. *World population and U.S. policy: The choices ahead*. American Assembly, Columbia University, series. New York and London: Norton; Markham, Ontario: Penguin Books Canada, 1986. Pp. viii, 255. \$8.95, paper. ISBN 0-393-30399-3. JEL 87-0942

Seven papers originally presented as background papers for the Seventy-first American Assembly in Harriman, New York, in April 1986, as well as the final report of the Assembly and an introduction by the editor that considers issues related to the change in U.S. population policy in 1984 and the current debate about the relationship of population growth to economic development. Papers examine: world population history, trends, and projections (Paul Demeny); whether the economic consequences of population growth provide a sound basis for population policy (Samuel H. Preston); population trends and economic development (Ansley J. Coale); fertility change in the third world (John Bongaarts); family planning programs (George B. Simmons); immigration, immigration policy and demographic change in the United States (Michael S. Teitelbaum); and population policy choices available to the U.S. concerning rapid population growth in the third world (David E. Bell). The American Assembly's final report lists recommendations for U.S. foreign policy concerning population. Menken is Professor of Sociology and Public Affairs and Assistant Director of the Office of Population Research, Princeton University. Index.

NERLOVE, MARC; RAZIN, ABRAHAM AND SADKA, EPHRAIM. *Household and economy: Welfare economics of endogenous fertility*. Economic Theory, Econometrics, and Mathematical Economics series. Boston:

London; Sydney and Toronto: Harcourt, Brace, Jovanovich; Academic Press, 1987. Pp. xiii, 155. \$29.95. ISBN 0-12-515752-5. JEL 87-0943

Examines the general equilibrium implications of endogenous fertility for issues of population policy. Assumes that parents maximize their own utility functions in making decisions regarding the number of children and investments in them. Begins with a review of social welfare criteria for optimal population size and the static theory of optimal population size, optimal population growth with exogenous fertility, and the theory of endogenous fertility. Examines the basic principles of welfare economics and externalities; summarizes the traditional theory of household behavior and its modifications covering parental decisions regarding fertility and investments in children. Discusses optimal population size according to various social welfare criteria, from the perspectives of average and total utility. Analyzes potential and real market failures, with emphasis on the endogeneity of fertility, and examines alternative reasons for having children and the concept of children as a capital good. Describes the implications of endogenous fertility for intragenerational income distribution. Indicates future areas for research. Nerlove is a member of the Department of Economics at the University of Pennsylvania. Razin and Sadka are both members of the Department of Economics at Tel-Aviv University. Author and subject indexes.

UNITED NATIONS DEPARTMENT OF INTERNATIONAL ECONOMIC AND SOCIAL AFFAIRS. *World population prospects: Estimates and projections as assessed in 1984*. Population Studies series, no. 98. U.N. Publication Sales No. E.86.XIII.3. New York: Author, 1986. Pp. x, 330. \$35.00, paper. ISBN 92-1-151159-3. JEL 87-0944

Provides updated and comparable estimates and projections of population and related major demographic variables for countries as well as areas and regions of the world. Supersedes the 1982 assessment. Presents indicators relating to size, age and sex structure, population composition, growth, fertility, mortality, urbanization, and international migration in intervals of five years for the period from 1950 to 2025. Introductory chapters discuss methods, data, assumptions, and major findings. The publication mainly consists of statistical tables. Magnetic tape and French, Russian, and Spanish editions available. No index.

WORLD BANK; POPULATION, HEALTH, AND NUTRITION DEPARTMENT; POLICY AND RESEARCH DIVISION. *Population growth and policies in sub-Saharan Africa*. Washington, D.C.: Author, 1986. Pp. x, 168. Paper. ISBN 0-8213-0773-8. JEL 87-0945

Focuses on the economic consequences of rapid population growth in Africa and on policies and programs to reduce population growth. Describes Africa's current demographic situation and presents projections for demographic change up to the year 2050. Assesses the consequences of individual decisions by African parents to have many children. Discusses measures that strengthen the demand for smaller families and build a consensus about the legitimacy of family planning. Describes the current state of family planning programs in sub-Saharan African countries and considers steps to ensure rapid program expansion. Examines the question of what role the government should play in developing programs and extending services and sources of population assistance. Prepared by the staff of the Policy and Research Division of the Population, Health, and Nutrition Department, World Bank. No index.

See also: Book Numbers JEL 87-0688, 87-0712, 87-0760, 87-0765, 87-0926

850 HUMAN CAPITAL; VALUE OF HUMAN LIFE

MIKKELSEN, BRITHA. *Formation of an industrial labour force in Kenya: Experiences of labour training in the metal manufacturing industries*. CDR Research Report series, no. 10. Copenhagen: Centre for Development Research, 1986. Pp. 137. Dkr 20.00, paper. ISBN 87-88467-32-5.

JEL 87-0946

Examines the development of Kenya's labor force as a human resource in the 1970s through 1981. Surveys the work and training conditions of manual workers in a sample of production and maintenance companies in the metal trades and worker experiences and company and government training policies and practices. Analyzes the structure of training for the industrial labor market and uses company profiles to study workmanship in the engineering trades. Mikkelsen is a researcher with the Centre for Development Research, Copenhagen. No index.

900 Welfare Programs; Consumer Economics; Urban and Regional Economics

910 WELFARE, HEALTH, AND EDUCATION

ANDERSON, DOLE A. *Management education in developing countries: The Brazilian experience*. Latin American Monograph Series, vol. 20. Boulder, Colo. and London: Westview Press in cooperation with the Latin American Studies Center, Michigan

State University, 1987. Pp. 205. \$23.50, paper. ISBN 0-8133-7347-6.

JEL 87-0947

Presents results of field work begun in 1981, examining the literature and interviewing individuals involved in the development and current operation of Brazilian schools of administration, replicating the Ford and Carnegie Foundation reports of 1959. Information summarizes results of visits to seven schools and three research institutes in five cities and interviews with seventy-eight educators, government officials, and business executives. Specific attention is given to: (1) management and management education worldwide, emphasizing the management education boom and the Foundation reports; (2) business as an occupation in Brazil, with some sketches of the business elite; (3) Brazilian higher education; (4) management schools and their programs; (5) management students, including their aspirations and achievements and what the graduates do; and (6) faculty and research. The concluding chapter deals with building quality for the future, focusing on the linkage with the business community and role of the government. Anderson is Emeritus Professor in the Graduate School of Business Administration, Michigan State University. Glossary of acronyms; bibliography; index.

BRODY, MICHAEL. *Immunization. dice*. Twentieth Century Fund Paper series. New York: Priority Press, 1987. Pp. vi, 77. Paper. ISBN 0-87078-211-8.

JEL 87-0948

Discusses ways to insure vaccine manufacturers against law suits that hold them liable under the "deep pockets" theory, which believes that nobody pays when insurance companies or large corporations must provide compensation to innocent victims. Analyzes the various remedies proposed to handle the vaccine problem—the concern that unless vaccine manufacturers can be protected against unlimited damages awards, new vaccines needed to battle diseases such as AIDS or herpes will not be marketed. Finds that many insurers now are refusing to underwrite these risks because they are unable to determine the degree of certainty of potentially large damage awards. Reviews the nature of the crisis, especially for the development of future vaccines. Associates the revolution in medical research with aggravating the crisis. Discusses the obstacles in finding control groups on which to test new vaccines. Describes the economics of law suits and torts, pointing out the risk in marketing a vaccine that could benefit millions, but might also give a handful the subject disease. Examines the pros and cons of a no-fault insurance approach. Concludes that any new system must guarantee medical care and adequate compensa-

tion for victims at the same time that it provides for predictable costs for insurers. Brody is a journalist for *Fortune*. No index.

BROOKS, RICHARD G. *The development and construction of health status measures: An overview of the literature*. IHE Report series, 1986:4. Lund, Sweden: Swedish Institute for Health Economics, 1986. Pp. 107. Paper. ISSN 0349-7631.

JEL 87-0949

Part of a series of publications that provide the results of a research program concerning health status measures and the interrelationships between such measures and economic analysis. Presents the background to the development of these measures. Notes importance of health status measures to appraise the effectiveness of medical interventions, to examine the possibilities of improving clinical observations, and to assess the quality of care. Following comments on the analytical framework, the report considers the definition of health and the methodological criteria required in health status index development. Reviews how well various indices meet these criteria. Also discusses measures of quality of care assessments, treating structure, process, and outcome. Presents an outline of health indices, classified as functional assessment, global/multiattribute, mental health status, quality of life, and "other." Reviews positions of other writers on health status measures. Concludes that indices should be concise, easy to use, capable of self-administration, and useful for purpose of evaluation and determination of public policy. Brooks is Lecturer in Economics at the University at Strathclyde, Glasgow. Bibliography; no index.

BURTLESS, GARY, ed. *Work, health, and income among the elderly*. Studies in Social Economics series. Washington, D.C.: Brookings Institution, 1987. Pp. xiii, 276. \$26.95. ISBN 0-8157-1176-0.

JEL 87-0950

Six papers address a variety of policy issues relating to the work and health status of the aged and to the adequacy of income and food consumption among households headed by older persons. James M. Poterba and Lawrence H. Summers discuss public policy implications of declining old-age mortality. Martin Neil Baily focuses on policy issues and recent trends in connection with aging and the ability to work. Gary Burtless examines the effect of education, earnings, and occupational attachment on the health status and work capacity of American men aged 58 to 73. Jerry A. Hausman and Lynn Paquette discuss involuntary early retirement and food consumption. Robert A. Moffitt analyzes whether more generous social security benefits have led to early retirements. Alan J. Auerbach

and Laurence J. Kotlikoff discuss the adequacy and determinants of life insurance for those aged 58 to 65. Burtless is a Senior Fellow in the Brookings Economics Studies Program. Index.

GREENBERG, DAVID AND WOLF, DOUGLAS. *Using computers to combat welfare fraud: The operation and effectiveness of wage matching*. With JENNIFER PFIESTER. Studies in Social Welfare Policies and Programs series, no. 2. New York and London: Greenwood Press, 1986. Pp. xiv, 265. \$37.95. ISBN 0-313-24870-2.

JEL 87-0951

Analysis of the use of computer-aided wage matching systems to verify earnings reported by recipients in the Food Stamp and Aid to Families with Dependent Children (AFDC) Programs. Part 1 reviews the background to and methodology of wage matching systems and their development and use as an administrative tool. Part 2 describes wage matching systems, discussing system elements, the actual performance of matches, and follow-up activities. Part 3 presents the framework for cost-benefit analysis of wage-matching systems and compares the methods employed in New Jersey; San Joaquin County, California; and New Hampshire. Part 4 presents a summary of findings and recommendations for improvement of fraud detection. Greenberg is Professor of Economics at the University of Maryland. Wolf is Senior Research Associate at the International Institute for Applied Systems Analysis, Luxenburg, Austria. Bibliography; index.

JIMENEZ, EMMANUEL. *Pricing policy in the social sectors: Cost recovery for education and health in developing countries*. Baltimore and London: Johns Hopkins University Press for the World Bank, 1987. Pp. vi, 170. \$16.50. ISBN 0-8018-3501-1.

JEL 87-0952

Reviews recent research on the desirability of increasing the role of prices in financing and allocating educational and health services in developing countries. Describes current pricing policy in LDCs and its effect on efficiency and equity, and then shows how both can be improved by adjusting cost recovery policies. Argues that blanket policies of free facilities have led to both inefficiency and inequity. Documents the financial crisis confronting the social sectors, pinpointing the effects of budgetary constraints, excess demand for social services, and lack of flexibility. Reviews practices that support inequity in the current system. Proposes changing pricing policy to include pricing for efficient provision of these services, using the basic principles of microeconomics (particularly marginal analysis) and emphasizing economics of scale, costs, and behavioral parameters. Considers

pros and cons of user fees. Jimenez is with the World Bank. Index.

KOP, YAAKOV, ed. *Changing social policy: Israel, 1985-86*. Jerusalem: Center for Social Policy Studies in Israel, 1986. Pp. xxiii, 259. Paper.

JEL 87-0853

This report presents data on macro-allocations for Israel's human services, describing the nation's commitments and priorities in shaping its socioeconomic policies. Examines and analyzes the allocation of resources for the social services, embracing education, health, income maintenance, personal welfare services, employment, housing, immigrant absorption, and social aspects of tax policy. Divided into three parts. Part 1 summarizes the trends in social expenditure and its distribution. Separate chapters are devoted to education, health, income maintenance, and personal welfare. Part 2 discusses the implications of resource allocation policy from the point of view of the government sector and the entire economy. Also discusses the propriety of income maintenance programs and "package deals"—wage, price, and policy arrangements between the government, labor, and employers. The third part discusses tax policy, tax relief under the law, and housing assistance policy. Kop is Director of Research, Center for Social Policy Studies in Israel. No index.

VON DER SCHULENBURG, J.-MATTHIAS GRAF, ed. *Essays in social security economics: Selected papers of a conference of the International Institute of Management, Wissenschaftszentrum, Berlin*. Microeconomics Studies series. New York; Berlin; London and Tokyo: Springer, 1986. Pp. ix, 222. \$34.10. ISBN 0-387-16743-9. JEL 87-0954

Nine essays presented at the Workshop on the Origin and Future of Social Security Schemes at the International Institute of Management at the Science Centre, Berlin, December 1984. Focuses on current issues in social security policy, such as the economic effects of demographic changes, equal pension rights for women, and reform proposals for social health insurance. Papers examine the influence of political institutions on social security policies from a public choice perspective; public pensions and political decision making; intergenerational solutions to the social security dilemma; social security and intergenerational equity; intergenerational equity and fund balances for statutory health insurance; improvements in state pension rights for women; statutory health insurance and its reform, presenting a review of the bonus system as an innovation in health insurance in West Germany; and the determinants of the use of physician services under statutory health

insurance, also in West Germany. Von der Schulenburg is with Wissenschaftszentrum Berlin. Author and subject indexes.

VON DER SCHULENBURG, J.-MATTHIAS GRAF AND SKOGH, GÖRAN, eds. *Law and economics and the economics of legal regulation*. International Studies in Economics and Econometrics series, vol. 13. Hingham, Mass.; Dordrecht and Lancaster: Kluwer Academic, 1986. Pp. x, 230. \$61.00. ISBN 90-247-3377-4. JEL 87-0955

Eleven papers selected from a conference in June 1985 at the International Institute of Management of the Wissenschaftszentrum Berlin on "Law and Economics of Legal Regulation." Focus is on the way in which law determines the use of scarce resources and the way in which scarce resources influence the legal structure. Part 1 is an introduction. Part 2 discusses law and economics. The first essay considers questions dealing with the inalienability of property rights, developing a classification of entitlements illuminating property relationships in modern welfare states. The next contribution analyzes the negotiation process as an elaborate bargaining game in which threat plays an important role. This is followed by a critical survey of economic efficiency and the common law. The last two essays in this part examine default risks and the optimal pricing of court enforcement services and present a theory relating transactions costs to communication. Part 3 deals with the economics of legal regulation, including discussions of regulatory measures to enforce quality production among self-employed professionals, controlling insider trading in Europe and America, the regulation of shop opening hours in the United Kingdom, Belgian public policy toward retailing, and assessing the effectiveness of economic efficiency of an EEC pollution control directive to reduce discharges of mercury to the environment. Contributors are economists and lawyers. Von der Schulenburg is with Wissenschaftszentrum Berlin. Skogh is with the University of Lund. Index.

UNITED NATIONS DEPARTMENT OF INTERNATIONAL ECONOMIC AND SOCIAL AFFAIRS, STATISTICAL OFFICE. *Concepts and methods for integrating social and economic statistics on health, education and housing: A technical report*. Studies in Methods, Series F, no. 40. U.N. Publication Sales No. E.86.XVII.23. New York: United Nations, 1986. Pp. viii, 67. \$8.50, paper. ISBN 92-1-161275-6. JEL 87-0856

Assesses the state-of-the-art of the development of integrated social and economic statistics. Considers general issues in integration, the importance of multi-purpose classifications (especially accord-

ing to socioeconomic group), problems and possibilities for linkages between micro- and macro-data, and technical issues involved in the use of economic statistics and statistical systems in social fields related to economic measurement and the use of national accounts. Analyzes practical problems of integration in the areas of health services, educational services, and housing and human settlements. Contains suggestions for improving the collection, processing, and presentation of social and economic statistics for national and international socioeconomic policy planning, monitoring, and analysis. Prepared by Christopher Saunders as consultant to the U.N. Secretariat. Also available in French, Russian, and Spanish. No index.

UPHAM, FRANK K. *Law and social change in postwar Japan*. Cambridge, Mass. and London: Harvard University Press, 1987. Pp. x, 269. \$25.00. ISBN 0-674-51786-5. JEL 87-0957

Examines law and social change in contemporary Japan, especially the way in which elites use legal rules and institutions to manage and direct conflict and control change at a social level. Refutes the view that Japan is characterized by a social life virtually free of conflict, a low rate of litigation, a small number of lawyers, and the settlement of most disputes by mediation and arbitration. Presents four case studies to investigate how law affects the course of social conflict: the evolution of the antipollution movement; the struggle to overcome social discrimination; the elimination of sex discrimination; and the formation of industrial policy by the Ministry of International Trade and Industry. Examines the options of aggrieved persons in each case. Concludes that law can play the same instrumental role in the pursuit of private interests and social goals in Japan that it plays in other countries. Upham is Associate Professor at the Boston College Law School. Index.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, HEALTH CARE FINANCING ADMINISTRATION, OFFICE OF RESEARCH AND DEMONSTRATIONS. *Health care financing: Program statistics. Medicare and Medicaid data book, 1984*. HCFA Pub. No. 03210. Baltimore, Md.: Author; distributed by U.S.G.P.O., 1986. Pp. vii, 135. \$6.50, paper. JEL 87-0958

Third in a series of descriptive statistical reports on the Medicare and Medicaid programs. Focuses on calendar year 1981 for Medicare and fiscal years 1981 and 1982 for Medicaid. Provides information on the relationships between the two programs, federal administration of the programs, and comparative program expenditures. Presents data on number of enrollees and recipients of benefits, total outlays, and services. Reviews the major charac-

teristics of Medicare and Medicaid including eligibility, benefits, financing, and administration. Discusses prepaid health plans and the Medicare statistical system. Examines the *National Medical Care Utilization and Expenditure Survey* and the Medicaid data system. Glossary; no index.

WIENER, JOSHUA M., ed. *Swing beds: Assessing flexible health care in rural communities*. Brookings Dialogues on Public Policy series. Washington, D.C.: Brookings Institution, 1987. Pp. ix, 140. \$11.95, paper. ISBN 0-8157-9283-2. JEL 87-0959

Seven papers, several with comments, presented at a conference at the Brookings Institution in February 1986. Describes the "swing-bed" concept as a means to allow small rural hospitals with fewer than fifty beds to use them interchangeably for either acute or home care, with reimbursement adjusted accordingly. Two papers present a framework for examining swing beds and summarize the experience of the Robert Wood Johnson Foundation demonstration, cosponsored by the American Hospital Association, and designed to help hospitals and hospital associations implement the swing bed concept. A third paper examines economic and financial issues and analyzes the circumstances under which swing beds are cost effective. Another contributor describes several options for reform of the reimbursement systems. Two papers review the practice from the patient's perspective with respect to access and the quality of care. The final paper evaluates the program and presents implications for the future. The contributors are Anthony R. Kovner, Hila Richardson, Steven A. Finkler, John Holahan, Peter W. Shaughnessy, Helen L. Smits, Bruce C. Vladeck, and the editor, who is Senior Fellow at the Brookings Institution. No index.

WORLD BANK. *Brazil: Finance of primary education*. World Bank Country Study series. Washington, D.C.: Author, 1986. Pp. 78. \$5.00, paper. ISBN 0-8213-0843-2. JEL 87-0960

Studies the educational finance sector in Brazil, with emphasis on primary education. Useful as a background for the debate on constitutional reform and decentralization of financing and providing education. Defines problems of inequity and inefficiency, noting an inequitable allocation of resources for education and an inefficient use of allocated resources. Finds inequities among income groups, regions, and urban and rural areas. Documents the inefficiencies of the system of intergovernmental education transfers. Identifies five policy issues: lack of policy analysis and planning at the federal budget level; inequities across education sectors

with larger subsidies in higher education at the expense of low quality primary education; regional inequities; ineffective use of resources; and inefficient transfer of funds to state and municipal schools. Recommends policies to improve federal administration, lessen inequities through a cost recovery program and higher admission standards for advanced education, and efforts to lessen the repetition rate for first graders. Finds that compared to countries of similar income levels, Brazil has not given high priority to investment in education. Glossary; no index.

WORLD BANK. *China: Management and finance of higher education.* World Bank Country Study series. Washington, D.C.: Author, 1986. Pp. viii, 126. \$8.00, paper. ISBN 0-8213-0842-4.

JEL 87-0961

Prepared on the basis of a mission that visited China in 1985. Looks at key issues for China in the management and finance of higher education over the next fifteen years and at policy options in view of recent Chinese proposals for reforms in education and international experiences. Presents: a review of the government's plan for long-term expansion of higher education; estimates of demand for and supply of high-level manpower in view of Chinese structural changes and growth to the year 2000; analysis of the cost structure of universities; an assessment of practices in maintenance and management of facilities; an evaluation of university accounting and finance practices; and an examination of the feasibility of higher education plans. Concludes that China should adopt a medium growth-scenario for universities, especially since there are other pressing claims for resources for education, recognizing that there is a trade off in the demands for these funds. No index.

See also: Book Numbers JEL 87-0713, 87-0724, 87-0729, 87-0785, 87-0853, 87-0897, 87-0911, 87-0925, 87-0926, 87-0938, 87-0952

920 CONSUMER ECONOMICS

See also: Book Numbers JEL 87-0647, 87-0667, 87-0795, 87-0874, 87-0914, 87-0950

930 URBAN ECONOMICS

HARDOT, JORGE E. AND SATTERTHWAITE, DAVID, eds. *Small and intermediate urban centres: Their role in regional and national development in the third world.* Boulder, Colo.: Westview Press in association with the United Nations University, 1986. Pp. xx, 421. \$37.50, paper. ISBN 0-8133-0404-0.

JEL 87-0962

Nine articles summarize the findings and present conclusions from the first phase of a collaborative

research program on the present and potential role of small and intermediate urban centers in the development process. Two objectives are indicated: to provide a better understanding of how social, economic, and political forces shape urban systems over time and their impact on economic development and to understand the rationale of the cost/benefits of government intervention to stimulate development, with most of the attention on the first aim. Six papers present case studies of the Upper Valley of Rio Negro and the Comahue Region in Argentina, the Gezira Region in The Sudan, selected areas in South India, several centers in North India, and Southwest Nigeria. The articles that follow survey factors affecting development in these types of centers and government policies affecting them, and also draw conclusions about the roles the centers should play in social and economic development programs. Contributors are mainly geographers and social scientists specializing in urban and regional studies. Hardoy is Senior Fellow, Centro de Estudios Urbanos y Regionales, Buenos Aires. Satterthwaite is a researcher with the Human Settlements Programme, International Institute for Environment and Development. Annotated bibliographies; index.

McKEOWN, KIERAN. *Marxist political economy and Marxist urban sociology: A review and elaboration of recent developments.* New York: St. Martin's Press, 1987. Pp. xviii, 282. \$32.50. ISBN 0-312-51794-7.

JEL 87-0963

Centers on Marxist urban sociology, analyzing some of the key issues within the Marxian framework and the relevance of that framework to the analysis of urban areas. Part 1 provides an overview of Marxian political economy, analyzing Marx's theories of value, crisis, rent, and productive and unproductive labor. Part 2 examines the works of French urban sociologists Manuel Castells and Jean Lojkin by reviewing and outlining their conceptual frameworks and then evaluating their empirical research. Part 3 presents an alternative approach to Marxist urban sociology that incorporates a more micro-level analysis of urban processes and conflicts. McKeown is with the Social Research Centre at the National Institute for Higher Education at Limerick, Ireland. Bibliography; name and subject indexes.

See also: Book Numbers JEL 87-0948, 87-0965

940 REGIONAL ECONOMICS

BATEY, P. W. AND MADDEN, M., eds. *Integrated analysis of regional systems.* London Papers in Regional Science series, no. 15. London: Pion; distributed in the U.S. by Methuen, N.Y., 1986. Pp.

222. \$21.50, paper. ISBN 0-85066-116-0.

JEL 87-0964

Twelve papers, nine presented at the 1984 Annual Conference of the Regional Science Association, British Section at the University of Kent at Canterbury. Focus is on developments in research related to three facets of integration, i.e., regional activity, interregional linkages, and conjoining different types of regional models. Papers discuss: methodological problems in the design of regional models (integrated forecasting models; consistent modeling of employment, population, labor force, and unemployment; general problems of integration; and complexity and the effects of transit on urban forms); models from the social accounts/input-output tradition (a model of two populations and their economies; biregional analysis using a social accounts matrix); a regional input-output analysis of the economic consequences of a change in demographic patterns; an input-output/vacancy chain approach to the regional impact of migrants' expenditure; and policy applications (review of socioeconomic impact-assessment models, analysis of the socioeconomic impacts of a regional synthetic fuels industry, state and local fiscal analysis, and applications of biregional input-output in regional policy analysis). The authors are members of the Department of Civic Design, University of Liverpool. Subject and author indexes.

NIJKAMP, PETER, ed. *Handbook of regional and urban economics*. Volume 1. *Regional economics*. Handbooks in Economics series, no. 7. Amsterdam; New York; Oxford and Tokyo: North-Holland; distributed in the U.S. and Canada by Elsevier Science, N.Y., 1986. Pp. xxii, 702. \$65.00. ISBN 0-444-87960-2.

JEL 87-0965

Sixteen papers on fields of regional economics collected to represent a source, reference, and teaching supplement for use by professional researchers and advanced graduate students. Provides surveys of the current state of regional economics. General areas and specific topics covered are: locational analysis (location of production activities, residential mobility and household location, public facility location, spatial equilibrium analysis, and regional economic dynamics); regional economic models and methods (regional and multiregional models, regional input-output analysis, spatial interaction models, regional econometric and dynamic models, and qualitative statistical models); and regional economic development and policy analysis (multiple objective decision analysis, regional labor market analysis, regional energy and environmental analysis, innovation and changes in regional structure, and regional policies in developing countries). Nijkamp is a member of the De-

partment of Economics at the Free University, Amsterdam. Author and subject indexes.

See also: Book Number JEL 87-0884

Related DISCIPLINES

ABEL, CHRISTOPHER AND TORRENTS, NISSA, eds. *Martí, José: Revolutionary democrat*. Durham, N.C.: Duke University Press, 1986. Pp. xviii, 238. \$29.95. ISBN 0-8223-0679-4. JEL 87-0966

Nine papers discuss various aspects of the career of José Martí, a Cuban nationalist and revolutionary, who lived from 1853 to 1895. Papers by Ivan M. Schulman and Roberto Fernández Retamar analyze Martí's modernity. Papers by Gerald E. Poyo and Jacqueline Kaye examine Martí's role among émigré communities in the United States and his writings in and about the U.S. Antoni Kapcia discusses Cuban populism; Jorge Ibarra examines Martí's ideology in its relationship to socialism; and Christopher Abel assesses Martí in the context of the changes in the international order during the last decades of the nineteenth century. John M. Kirk examines Martí's intellectual commitment and Nissa Torrents analyzes his only novel *Amistad funesta*. The contributors are mainly specialists in Latin American history and languages. Abel is Lecturer in Latin American history, and Torrents is Lecturer in Latin American film and literature, both at University College, London. Bibliography; index.

EPSTEIN, JOSHUA M. *Strategy and force planning: The case of the Persian Gulf*. Washington, D.C.: Brookings Institution, 1987. Pp. xiii, 169. \$28.95, cloth; \$10.95, paper. ISBN 0-8157-2454-3.

JEL 87-0967

Sets forth three basic strategies available to the United States for the deterrence of Soviet conventional aggression and determines which of these would prove most credible in the Persian Gulf. Aim is to address a defense problem of immediate concern to the United States from the perspective of two questions: the most credible defense strategy and the force structure necessary to execute that strategy. Points to significant events that determine U.S. strategy in the Persian Gulf area, such as the collapse of the shah, the Iranian revolution, and the Soviet invasion of Afghanistan. Classifies strategies as symmetrical where the response is directed at the same location and time as the provocation and asymmetrical where the response is selected because it suits better against the adversary. Identifies three strategies and evaluates each: (1) vertical escalation where a small conventional force is dispatched as a tripwire that could be followed by nuclear employment; (2) horizontal escalation

lation, launching conventional counteroffenses; and (3) conventional defense. Argues that, contrary to the pessimism expressed about it, the asymmetrical strategy response is feasible. Epstein is a research associate in the Brookings Foreign Policy Studies program. Appendices present force structures and logistic requirements. Bibliography; index.

MCCGWIRE, MICHAEL. *Military objectives in Soviet foreign policy*. Washington, D.C.: Brookings Institution, 1987. Pp. xiv, 530. \$39.95, cloth; \$18.95, paper. ISBN 0-8157-5552-X. JEL 87-0968

Identifies Soviet strategic objectives in a world war and assesses how these objectives shape Soviet military requirements and the effect they have on Soviet foreign policy. Examines Soviet military policy in the twenty-five years following World War II; hypothetically outlines the Soviet plan of military operations for the contingency of world war; and discusses how planning for this contingency shapes Soviet policy, while producing a military posture and structure of forces that appear to the West as being far in excess of any legitimate defense needs. Argues that by assuming that escalation to an intercontinental exchange was not inevitable the Soviets could adopt the objective of avoiding the nuclear devastation of Russia and that this change in hierarchy of objectives explains more recent developments in Soviet Defense and foreign policies. Also argues that this change has generally favorable implications for peaceful coexistence. A general conclusion is that ill-founded, worst-case assumptions about the Soviet Union's broader intentions generate U.S. policies with results that are the opposite of what the United States desires. McGwire is Senior Fellow, Brookings Foreign Policy Studies Program. Index.

WEBBER, G. C. *The ideology of the British right 1918-1939*. New York: St. Martin's Press, 1986. Pp. 185. \$35.00. ISBN 0-312-00078-6.

JEL 87-0969

Examines the ideas of dissident conservatives and of fascists in Britain between the wars. Analyzes beliefs that the right wing held and argues that the variety of their ideas contributed to the weakness of the fascist movement in Britain by creating ideological barriers that limited the support it received from disillusioned conservatives. Considers the relationship between the right wing and the leadership of the Conservative Party and argues that ideology played an important part in the struggle between them. Discusses the importance of the right wing within the Conservative Party and examines perceptions of the social order, attitudes toward property and the economy, ideas

about the state, and problems of international relations. Focuses on ways in which the beliefs of the conservative right related to support for fascism in Britain and how the right wing of the Conservative Party itself changed from 1918 to 1939. A general conclusion is that prior to the 1930s the identity of the right was related to shared anxieties about imperial decline; however, during the 1930s the pattern of right-wing politics came to be dictated by economic rather than nationalistic issues. Webber is an administrator at the University of Newcastle-upon-Tyne. Bibliography; index.

NEW JOURNALS

ATAS Bulletin

The ATAS (*Advanced Technology Alert System*) Bulletin is a semiannual publication of the Centre for Science and Technology for Development, United Nations Secretariat, New York. The theme of the June 1986 issue (no. 3) is new information technologies and development, which emphasizes bridging innovations in information technology with efforts designed to integrate them into the development planning process. The issue contains forty articles (half of which are excerpted from previous works published around the world) organized into sections on technology (eight articles), experiences with technology (fourteen articles), implications (seven articles), capacity building (five articles), and policy options (six articles). Each section is preceded by a summary statement. Also contains an overview, concluding notes, glossary, and a listing of sources for further information. Available in French, Russian, and Spanish. Single issue: \$9.00. Write to: United Nations Publications, Room DC2-0853, New York, NY 10017. (ISSN 0257-5973)

Indian Journal of Industrial Relations

Quarterly publication of the Shri Ram Centre for Industrial Relations and Human Resources is devoted to the dissemination of knowledge in these fields; focuses on India. The January 1987 issue (Vol. 22, no. 3) has three articles, five shorter communications, and three book reviews. Topics of articles are: unemployment and casual labor in India, the Indian experience with industrial democracy, and employment growth in Indian industry. Communications discuss: industrial structure and the pattern of development in India, the relationship of job involvement to employees' morale and ambiguity-tolerance, motivation and entrepreneurial behavior of farmers, the relationship between workers' output and supervisory style and situation favorableness, and farm size and union density in Singapore. Also contains an international index of recently published journal articles about industrial

relations. Annual subscription: Rs. 80 in India; \$44.00, other countries, air mail; and \$20.00, other countries, sea mail. Single copy: Rs. 20, \$11.00, and \$5.00 respectively. Write to: K.K. Bhargava, Administrative Officer, Shri Ram Centre for Industrial Relations and Human Resources, 5-Sadhu Vaswani Marg, New Delhi 10005, India.

Journal of International Economic Integration

Biannual (spring and autumn) publication of the Institute for International Economics, King Sejong University, Seoul. Supports and encourages theoretical and empirical research in the areas of international trade and finance, international economic affairs, and international economic cooperation. The Autumn 1986 issue (Vol. 1, no. 2) contains nine articles. Their topics are: the current exchange rate system; migration abroad for temporary employment and the effects on the country of origin; multilateral productivity comparisons of selected Asian developing countries; non-traded goods in an asymmetric trade model; adjustment dynamics under dual exchange rates; empirical results of an exchange rate determination by the portfolio approach in South Korea; the changing pattern of South Korean comparative advantage from 1965 to 1980; product market imperfections and customs unions theory; and monetary policy devaluation and capital accumulation in an open developing economy with fixed exchange rates. Annual subscription: \$20.00, individuals and \$30.00, institutions; additional \$5.00 for air delivery. Write to: Institute for International Economics, King Sejong University, Seongdong-Ku, Seoul, South Korea 133.

Journal of Real Estate Research

Official publication of the American Real Estate Society; presents original scholarly research articles in the applied areas of real estate finance, investment analysis and decision making, valuation and real estate market analysis, and related areas. Focus is on articles that present a micro-oriented view. The Fall 1986 issue (Vol. 1, no. 1) contains seven articles; their topics are: inconsistencies in appraisal theory and practice; the use of rank transformation and multiple regression analysis in estimating residential property values with a small sample; analysis of recent rates of return and examination of the secondary market for public real estate limited partnerships; intercity differences in home price appreciation; the financial performance of real estate investment trusts; a survey of real estate investment acquisition rules for REITs; and a note on leading indicators of housing market price trends. Annual subscription and dues: academic, \$40.00; professional, \$40.00; institutional, \$125.00;

sponsor, \$1000.00; student, \$20.00; foreign, \$50.00. Write to: James L. Kuhle, Secretary/Treasurer ARES, College of Business, California State University, Sacramento, CA 95819.

Natural Resource Modeling

Published quarterly by the Rocky Mountain Mathematics Consortium. The major theme of the journal is the development and analysis of mathematical models as tools for resource management and policy development; publishes both primary research and expository survey articles on research modeling areas. The Fall 1986 issue (Vol. 1, no. 1) contains an article on search theory in natural resource modeling and a survey of optimal harvesting models in forestry management. Topics of the other six articles include: relationships between natural and harvest mortalities of the mallard, environmental damages and option values, neoclassical foundations of nonmarket benefits estimation, and regulation of targeting behavior in a multispecies fishery. Also contains book reviews and a calendar of events. Annual subscription: \$190.00. Write to: Rocky Mountain Mathematics Consortium, Arizona State University, Tempe, AZ 85287, (ISSN 0690-8575)

New Zealand Economic Papers

Published annually by the New Zealand Association of Economists, Inc. Main emphasis is on aspects of economics and economic history relevant to New Zealand. The 1986 issue (Vol. 20) contains ten articles whose topics are: compensation for Maori land rights, the political economy of W. B. Sutch, a search for policy objectives at the 1984 Economic Summit Conference, nonmarket valuation in New Zealand, a risk appraisal of New Zealand's export industries using asset pricing models, the extent and nature of diversification in New Zealand manufacturing industries, the impact of variation in share market and/or business conditions on the parameters of the market model, data preparation and use in implementable computable general equilibrium models, the New Zealand experience with balance-of-payments constraints and feasible growth rates, and question of whether or not New Zealand has a balance of payments problem. Also contains book reviews and listings of new books received and New Zealand discussion/working papers, 1985-86. Annual subscription: sent to all members, nonmembers, \$25.00 per copy plus postage. Write to: Business Manager, New Zealand Economic Papers, P.O. Box 568, Wellington, New Zealand.

RIS Digest

Quarterly bulletin of the Research and Information System for the Non-aligned and Other Devel-

oping Countries. The July 1986 bulletin presents a short article on current RIS activities, an article paying tribute to the life and work of Paul Prebisch, and three notes on the nonaligned summits I-VIII, the Southern African Development Coordination Conference, and the first round of Global System of Trade Preferences negotiations. An events section reviews the Tokyo Summit and the RIS Forum section contains brief articles pertaining to the Africa's debt crisis, international financial markets and developing countries, and the recent economic development of Romania. Also contains book reviews; information about RIS seminars, workshops, discussion and committee meetings; the RIS network; and publications. Write to: Dr. V. R. Panchamukhi, Director, Research and Information System for the Non-aligned and Other Developing Countries, 40-B Lodhi Estate, New Delhi 110-003, India.

Urban Resources

Published three times a year by Metropolitan Services, Division of Continuing Education, University of Cincinnati. An interdisciplinary journal

containing articles that apply academic research and practical experience to the problem-solving process involved in the study of urban affairs. The theme of the Fall 1985 issue (Vol. 3, no. 1) is technology and the future of cities. The issue contains eight articles, three book reviews, local interest updates on activities related to the theme in eleven U.S. cities, and a bibliography. Topics of the articles are: technology and human values; information technology and urban revitalization; contrasting historical patterns of ownership and regulation of water, electricity, and cable television; new technology for infrastructure renewal; a high-tech toxics guide for local communities; cooperative research in manufacturing; the information revolution in Toronto; and the urbanization of electric and gas systems from 1880 to 1930. Subscription: individuals, \$15.00 for one year, \$25.00 for two years, or \$25.00 and \$48.00 for master edition; institutions, \$20.00 for one year, \$35.00 for two years, or \$35.00 and \$68.00 for master edition. Write to: *Urban Resources*, Metropolitan Services, University of Cincinnati, Mail Location #175, Cincinnati, OH 45221.

Editor's Note

The following persons assisted the editors in annotating these books: Mrs. Joan Daley, and Dr. Vibha Kapuria-Foreman and Professor Reuben E. Slesinger (both of the University of Pittsburgh).

The articles appearing in the Subject Index were classified under the direction of Professor Asatoshi Maeshiro, Editorial Consultant, assisted by Mr. A'Amir Farooqi, Mr. Nayyer Hussain, Mr. Edgar L. Zamalloa, and Mrs. Lorena M. Zamalloa (all of the University of Pittsburgh).

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Editor's Note

The articles appearing in the Subject Index were classified under the direction of Professor Asatoshi Maeshiro, Editorial Consultant.

Subject Index of Articles in Current Periodicals

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Selected Abstracts

Editor's Note

These abstracts are prepared by the author of each article. Each journal editor, where we have an abstracting agreement, is responsible for instructing the author according to our style sheet. These editors are responsible, additionally, for sending these abstracts to the *Journal of Economic Literature*. Only a minimal amount of copy editing is done on these abstracts; thus the reader should turn to the author of the abstract and not this journal if an error of fact or phrasing arises.

NOTE: The limit of 100 words for abstracts is being strictly enforced; i.e., longer abstracts are not printed.

000 General Economics; Theory; History; Systems

010 GENERAL ECONOMICS

011 General Economics

Atkinson, Glen W.—Instrumentalism and Economic Policy: The Quest for Reasonable Value

Institutional economists argue that evolutionary instrumentalism offers a superior scientific foundation for economic policy making than the prevailing equilibrium models. Because social evolution is guided by artificial rather than natural selection, values must be incorporated into economic inquiry. Instrumentalists consider policy actions in terms of consequences rather than from antecedent natural states. Conflicts must be resolved without reference to a natural order. John Commons developed his theory of reasonable value from these concepts. He concluded that the process of the common law coupled with economic theory provides a means to separate unreasonable privilege from reasonable good-will created by public policy. *J. Econ. Issues*, Mar. 1987, 21(1), pp. 189-202. University of Nevada, Reno.

Benton, Raymond, Jr.—Economics and the Loss of Meaning

Economics can be looked at and interpreted from any number of perspectives. The present article suggests that economics can be studied beneficially as a belief system—as a mode of persuasion and as a system for the creation and inculcation of meaning. A model of religious

belief systems is borrowed from anthropology, explained, and applied to economics. How economics creates and inculcates meaning is illuminated as well as the basis for its persuasion. The crises that economics as a belief system is faced with are discussed, as well as both traditional and new sources for its lack of persuasion among many. The educational role of the social economist is discussed. *Rev. Soc. Econ.*, Dec. 1986, 44(3), pp. 251-67. Loyola University, Chicago.

Dahlgran, Roger A.—Agricultural Economists in the Information Age: Awareness, Usage and Attitudes toward Electronic Bibliographic Databases

The construction, content, and potential use of electronic bibliographic databases is discussed. A survey of AAEA members indicates that both usage and unawareness of these databases are significant; that research and government agricultural economists are disproportionately users of electronic bibliographic databases while extension and agribusiness agricultural economists are disproportionately nonusers; that such databases average 28.9 percent useful citations for agricultural economic searches, though this percentage can be raised with help from a professional librarian; and that AAEA members favor having their literature citations in electronic form. *Amer. J. Agr. Econ.*, Feb. 1987, 69(1), pp. 166-73. University of Arizona.

020 GENERAL ECONOMIC THEORY

Stegman, Trevor R.—On the Rationality of the Rational Expectations Hypothesis

This note argues that the claim that the rational expectations hypothesis is a method of endogenizing the process of expectations formation, which is based on the principles of optimization, is not justified. The essential model-independent property of the rational expectations hypothesis is that forecasts are unbiased. It is shown that, since costs of error are likely to be correlated with error magnitude, unbiasedness is not a necessary property of a rational forecast and bias will be positively desirable when error costs are asymmetric or there are restrictions on the possible values of the variable to be forecast. *Australian Econ. Pap.*, Dec. 1985, 24(45), pp. 350-55. University of New South Wales.

Whalen, Charles J.—A Reason to Look beyond Neoclassical Economics: Some Major Shortcomings of Orthodox Theory

Unlike those employing neoclassical theory, dissenting economists are often asked to defend the methodological and theoretical foundation of their analyses. In providing one portion of such a defense, this article identifies a number of methodological, analytical, and practical shortcomings of conventional economics. While the essay does not claim to offer a complete list of such shortcomings, the weaknesses identified are believed to form a solid critique of—and thus a reason to look beyond—orthodox theory. The author concludes by suggesting that a broader, problem-oriented view of economic science is required to address today's most pressing economic challenges. *J. Econ. Issues*, Mar. 1987, 21(1), pp. 259-80. University of Texas, Austin.

021 General Equilibrium and Disequilibrium Theory

Epstein, Larry G.—The Global Stability of Efficient Intertemporal Allocations

This paper describes a continuous time model of an economy with finitely many infinitely-lived consumers and a finite number of capital goods. Two objectives are achieved. First, recursive (nonadditive) utility functionals are formulated and analyzed. Second, these preference functionals are applied to analyze the nature of efficient allocations in a dynamic econ-

omy. Two classes of global turnpike propositions are proven which provide the basis for a model of the long-run distribution of wealth. These propositions also provide new perspective regarding existing stability literature based on additive utilities. *Econometrica*, Mar. 1987, 55(2), pp. 329-55. University of Toronto.

Epstein, Larry G.—A Simple Dynamic General Equilibrium Model

This paper analyzes a single sector economy with $H > 1$ infinitely-lived agents that operate in a continuous time framework. Utility functions are recursive but not additive. Both efficient and perfect foresight competitive equilibrium allocations are considered. The existence and stability of such allocations are investigated locally, i.e., in a neighborhood of steady state allocations. The model is shown to be useful for explaining the distribution of wealth and consumption across agents, and for analyzing the way in which wealth redistribution can affect the dynamics of aggregate economic variables. *J. Econ. Theory*, Feb. 1987, 41(1), pp. 68-95. University of Toronto.

Huang, Chi-fu—An Intertemporal General Equilibrium Asset Pricing Model: The Case of Diffusion Information

This paper provides sufficient conditions for the equilibrium price system and a vector of exogenously specified state variable processes to form a diffusion process in a pure exchange economy. The conditions involve smoothness of agents' utility functions and certain nice properties of the aggregate endowment process and the dividend processes of traded assets. In place of the dynamic programming, a martingale representation technique is utilized to characterize equilibrium portfolio policies. This technique is useful even when there does not exist a finite dimensional Markov structure in the economy and thus the Markovian stochastic dynamic programming is not applicable. Agents are shown to hold certain hedging mutual funds and the riskless asset. In contrast to earlier results, the market portfolio does not have a special role in hedging, since the markets are dynamically complete. When there exists a finite dimensional Markov system in the economy, the dimension of the hedging demand identified

through the Markovian dynamic programming may be much larger than that identified by the martingale method. *Econometrica*, Jan. 1987, 55(1), pp. 117-42. Massachusetts Institute of Technology.

Jones, Larry E.—The Efficiency of Monopolistically Competitive Equilibria in Large Economies: Commodity Differentiation with Gross Substitutes

A general model of commodity differentiation is developed using two different approaches to the theory of demand. It is shown that a local version of Bertrand's argument holds under reasonable conditions. If all commodities are substitutes and sunk costs are small, there is never too little commodity differentiation relative to the optimum. Under the same conditions, monopolistically competitive equilibria are approximately perfectly competitive if the optimal collection of commodities is sufficiently rich. *J. Econ. Theory*, Apr. 1987, 41(2), pp. 356-91. Northwestern University.

Mehta, Chanshyam and Tarafdar, Enayet—Infinite-Dimensional Gale-Nikaido-Debreu Theorem and a Fixed-Point Theorem of Tarafdar

This paper proves the equivalence of five fixed point theorems in topological vector spaces and then uses them to deduce an infinite-dimensional generalization of the classic Gale-Nikaido-Debreu theorem. The proof is based on the Hahn-Banach theorem and the Tarafdar fixed point theorem. There is also a discussion of the relationship of this generalization to the existence theorems of C. Aliprantis and D. Brown, K. Border, N. Yannelis, and others. *J. Econ. Theory*, Apr. 1987, 41(2), pp. 333-39. University of Queensland, Australia.

Ray, Debraj—Nonpaternalistic Intergenerational Altruism

The paper develops a concept of equilibrium behavior and establishes its existence in a model of nonpaternalistic intergenerational altruism. Each generation derives utility from its own consumption and the utilities of its successors. Equilibrium capital stocks are time-monotone and therefore converge to a steady state. Finally, when each generation's utility depends

on that of at least two successors, equilibria may be inefficient. This is shown by an example where feasible programs exist providing greater consumption (compared to the equilibrium path) for every generation. *J. Econ. Theory*, Feb. 1987, 41(1), pp. 112-32. Stanford University and Indian Statistical Institute, New Delhi.

Yannelis, Nicholas C.—Equilibria in Noncooperative Models of Competition

An equilibrium in a game theoretic setting à la G. Debreu (1954) and W. Shafer and H. Sonnenschein (1975) with a broader structure is proved. In particular, the framework is general enough to encompass both the Aumann (1966) economy of perfect competition and the nonordered preferences setting of A. Mas-Colell (1974). Moreover, since the dimensionality of the strategy space may be infinite it contains Bewley-type (1972) results and may be useful in obtaining existence results for economies with a measure space of agents and infinitely many commodities. *J. Econ. Theory*, Feb. 1987, 41(1), pp. 96-111. University of Minnesota and Tulane University.

022 Microeconomic Theory

Basu, Kaushik—One Kind of Power

In standard models in economics, individuals interact pairwise. Allowing for "triadic" relations explains concepts like power and influence, which have been considered in economics only peripherally. This paper constructs three illustrations of power, all relying on triadic relations. The first demonstrates how unwanted regimes could persist because of interpersonal conjectures. The second shows how a laborer in backward agriculture may agree to an exchange with a landlord, from which he gets negative utility. The third formalizes our notion of "an influential man," and tries to explain his existence. *Oxford Econ. Pap.*, July 1986, 38(2), pp. 259-82. Delhi School of Economics.

Baumol, William J. and Willig, Robert D.—Contestability: Developments since the Book

In the four years since publication of the contestable markets book, a remarkable amount has been published on this subject. Regulatory agencies and antitrust decisions have also adopted policies explicitly derived from contest-

ability analysis. In some special situations contestability analysis has served appropriately to justify deregulation or immunity from antitrust, elsewhere it has yielded tools for regulation of market power. The article summarizes these developments, describing pertinent writings by economists, and regulatory and judicial decisions. *Oxford Econ. Pap.*, Supp. Nov. 1986, 38, pp. 9-36. Princeton University and New York University; Princeton University.

Benoit, Jean-Pierre and Krishna, Vijay—Dynamic Duopoly: Prices and Quantities

The authors study a dynamic model of duopoly in which firms choose both prices and quantities. If quantity (capacity) choices are relatively inflexible, firms generally carry excess (idle) capacity in equilibrium. Because of this enforcement cost, firms are unable to achieve monopoly levels. This contrasts with models in which firms compete in either prices or quantities alone. On the other hand, if capacities are flexible, firms may be able to sustain monopoly behavior. *Rev. Econ. Stud.*, Jan. 1987, 54(1), pp. 23-35. Columbia University; Harvard University.

Berg, Morten—Giffen's Paradox Revisited

The main argument of this paper is that the theoretical definition of Giffen's paradox is ambiguous to the extent that it ignores the initial endowments of the consumer. A Slutsky equation incorporating positive initial endowments is used to discuss the Irish demand for potatoes in 1845-1849, and a set of conditions to test whether or not the Irish potato was a Giffen good are deduced. *Bull. Econ. Res.*, Jan. 1987, 39(1), pp. 79-89. Norwegian School of Economics and Business Administration, Bergen-Sandviken.

Bernheim, B. Douglas; Shleifer, Andrei and Summers, Lawrence H.—The Strategic Bequest Motive

Although recent research suggests that intergenerational transfers play an important role in aggregate capital accumulation, our understanding of bequest motives remains incomplete. The authors develop a simple model of strategic bequests in which a testator influences the decisions of his beneficiaries by holding

wealth in bequeathable forms and by conditioning the division of bequests on the beneficiaries' actions. The model generates falsifiable empirical predictions that are inconsistent with other theories of intergenerational transfers. The authors present econometric and other evidence that strongly suggests that bequests are often used as compensation for services rendered by beneficiaries. *J. Lab. Econ.*, Pt. 2, July 1986, 4(3), pp. S151-82. Stanford University; Massachusetts Institute of Technology; Harvard University.

Bidard, Christian—Is von Neumann Square?

Generically, the active part of a von Neumann system (efficient methods and commodities) is square and has a positive inverse: it defines a well-behaved Sraffa system for joint production. Hence, for high profit rates of a Sraffa system, prices are positive and vary in the right direction, and one has a nonsubstitution result, as for single-product techniques. *J. Econ. (Z. Nationalök.)* 1986, 46(4), pp. 407-19. Université de Paris X-Nanterre.

Bonanno, Giacomo—Location Choice, Product Proliferation and Entry Deterrence

Within a slightly modified version of Hotelling's model (1929) the author reconsiders the claim that the threat of entry induces existing firms to produce a larger number of products than otherwise. The author shows that entry deterrence, although optimal, need not be achieved through product proliferation. In some cases the incumbent monopolist resorts to an entry-detering strategy based on location choice rather than product proliferation. The author also shows that in some cases the number of products chosen by the incumbent facing the threat of entry is strictly greater than the minimum number required to deter entry. *Rev. Econ. Stud.*, Jan. 1987, 54(1), pp. 37-45. Nuffield College, Oxford.

Caplin, Andrew S. and Nalebuff, Barry J.—Multi-dimensional Product Differentiation and Price Competition

The authors present a framework for analyzing the design and pricing of differentiated products. Their approach has two novel features. Individuals have Cobb-Douglas prefer-

ences over multidimensional product characteristics. The distribution of Cobb-Douglas parameters across society is concave: this implies that there is general agreement about which characteristic mix is most desirable. With these assumptions the authors demonstrate existence of a pure strategy price equilibrium for arbitrary pairs of products in two dimensions and also show how raising the dimensionality of the product space provides an advantage to a late entrant in a price-regulated duopoly. *Oxford Econ. Pap.*, Supp. Nov. 1986, 38, pp. 129-45. Princeton University.

Chavas, Jean-Paul—Constrained Choices under Risk

This paper explores the implications of quantity rationing in the context of production theory under price uncertainty and risk aversion. The influence of rationing on the properties of risk responsive supply-demand functions is analyzed in detail. A number of results concerning the impact of risk or technology on economic behavior under quantity constraints are derived. *Southern Econ. J.*, Jan. 1987, 53(3), pp. 662-76. University of Wisconsin.

Dixon, Huw—Strategic Investment with Consistent Conjectures

This paper combines two ideas in oligopoly theory: models of strategic investment and T. Bresnahan's (1981) concept of consistency of conjectures. Firms precommit capital stocks and hence determine their short-run cost function. The degree of competition in the product market is made endogenous by imposing Bresnahan's consistency condition. Firms take into account the influence of their investment decision on the degree of competition in the product market. The equilibrium conjecture of firms will lie between the Cournot and Bertrand values. In general there will be factor bias and inefficiency in production, which in a symmetric equilibrium is one of undercapitalisation. The degree of competition is sensitive to the wage-rental ratio: for high wage-rental ratios the equilibrium conjecture will be nearly Bertrand, and for low ratios they will be Cournot. *Oxford Econ. Pap.*, Supp. Nov. 1986, 38, pp. 111-28. Birkbeck College, London.

Dixon, Huw—Approximate Bertrand Equilibria in a Replicated Industry

The paper considers the existence and properties of approximate Bertrand equilibria in a replicated industry. Price setting firms produce a homogeneous product with weakly convex costs. The main results are that an ϵ -equilibrium exists if the industry is large enough; and that if the ϵ is small enough, and the industry large enough, any ϵ -equilibrium is approximately competitive. These results depend on how contingent demand is specified. *Rev. Econ. Stud.*, Jan. 1987, 54(1), pp. 47-62. Birkbeck College, London.

Hansson, Ingemar—Market Adjustment and Investment Determination under Rational Expectations

This paper extends traditional comparative statics analysis by providing a theory for the adjustment between stationary states for a competitive industry that faces upward sloping supply curves for durable and nondurable inputs given rational expectations. It is shown that capital adjustment is especially slow for an industry with long-lived capital, an inelastic supply of investment goods, and a low elasticity of substitution between durable and nondurable inputs. A numerical analysis reveals that it takes 6.4 to 50.5 years to close half of the gap between actual and stationary state capital for depreciation rates of 0.01 to 0.05. *Economica*, Nov. 1986, 53(212), pp. 505-14. University of Lund.

Harrington, Joseph E., Jr.—Collusion in Multiproduct Oligopoly Games under a Finite Horizon

Applying recent results on finitely repeated games to oligopoly theory, the author finds that there exists a class of finite horizon output games in which collusion can be achieved as a subgame perfect equilibrium. Trigger strategies prevent defection from the cooperative outcome by credibly threatening that the defector will be forced to exit the industry. For the case of a multiproduct oligopoly, it is shown that collusion in one market can be enforced by the threat of punishment in a second market if someone defects. Even though the two markets are structurally independent, the firms make them strategically interdependent through

their strategies. *Int. Econ. Rev.*, Feb. 1987, 28(1), pp. 1-14. Johns Hopkins University.

Hayes, Beth—Competition and Two-Part Tariffs

Traditional theories have viewed two-part tariffs as price-discrimination devices, employed exclusively by firms with market power. This paper offers an explanation for the use of such price schedules by firms in highly competitive markets, such as health clubs. It is argued that, in a world with buyer uncertainty about future demands, they can provide insurance for the risk-averse buyers. The fixed entry fee finances a marginal price below marginal cost. It is shown that the benefits from this lower price will, under certain specified conditions, outweigh the costs of the entry fee. *J. Bus.*, Jan. 1987, 60(1), pp. 41-54. Northwestern University.

Henderson, John S. and Henderson, Richard H.—Perversity in Factor Demand Curves—Simulation and Theory

This article analyzes factor demand by simulation methods for a monopoly firm with a straight-line demand curve and a CES production function. Under these conditions, the long-run factor demand for labor will intersect a short-run curve three times. The greater relative flatness of the long-run curve predicted by the Le Chatelier Theorem for small price changes is validated. However, for larger price changes the short-run curve is flatter. For still larger price changes, the long-run curve is again flatter. This work builds on that of David de Meza (1981, 1982). *Economica*, Nov. 1986, 53(212), pp. 515-18. Georgia State University; Georgia Institute of Technology.

Jovanovic, Boyan and Rob, Rafael—Demand-Driven Innovation and Spatial Competition over Time

This paper explores a model of innovation and spatial competition over time. A key implication of the paper is that firms' size is positively autocorrelated across time. The mechanism that generates this persistence works only in heterogeneous product markets and is based on the idea that larger firms possess better information about the design of future products. Some cor-

roborating evidence is cited. *Rev. Econ. Stud.*, Jan. 1987, 54(1), pp. 63-72. New York University; University of Pennsylvania.

Kagel, John H. and Levin, Dan—The Winner's Curse and Public Information in Common Value Auctions

In common value auction experiments, individual judgment errors significantly alter market outcomes relative to standard economic formulations. Experienced bidders show sensitivity to the strategic considerations underlying the auction but not to item valuation considerations. Nash equilibrium models accurately characterize auctions with small numbers of bidders (3-4). However, auctions with large numbers (6-7) produce more aggressive bidding, resulting in negative profits, the winner's curse. Public information reducing value uncertainty raises seller's revenues in the absence of a winner's curse, but reduces revenue in its presence. Similarities between laboratory and field data from outer continental shelf lease sales are discussed. *Amer. Econ. Rev.*, Dec. 1986, 76(5), pp. 894-920. University of Houston.

Katz, Michael L.—The Welfare Effects of Third-Degree Price Discrimination in Intermediate Good Markets

The author examines third-degree price discrimination by an upstream monopolist in an intermediate good market. Discrimination is motivated by the fact that downstream firms differ in their abilities to integrate backward into supply of the input. The author shows that under reasonable specifications of equilibrium, price discrimination leads to all buyers facing higher input prices. In other cases, discrimination raises some prices and lowers others. The author derives conditions under which discrimination lowers welfare by reducing total output and shows that in some markets discrimination will raise welfare by preventing socially inefficient backward integration. *Amer. Econ. Rev.*, Mar. 1987, 77(1), pp. 154-67. Princeton University.

Klemperer, Paul D.—Entry Deterrence in Markets with Consumer Switching Costs

In many markets consumers have transaction or learning "switching costs" between functionally undifferentiated brands. New entry into such markets may be deterred either by large customer bases and/or large switching costs, which deny customers to an entrant, or by small customer bases and/or small switching costs, which mean an incumbent will respond aggressively to an entrant. An incumbent threatened by entry may therefore price either lower or higher than otherwise. A firm with the right to enter early may make less profits over time than an otherwise identical firm that is unable to enter the market until later. *Econ. J.*, Supp. 1987, 97, pp. 99-117. St. Catherine's College and Institute of Economics and Statistics, Oxford University.

Löfgren, Karl-Gustaf and Ranneby, Bo—Behavioral Modes for a Firm Facing an Uncertain Supply or Demand Curve

This paper contains a theoretical analysis of the behavior of a firm facing a stochastic supply and demand curve. Certain behavioral modes can be ranked under weaker conditions than in corresponding studies on stochastic demand. For other comparisons, the authors derive sufficient conditions for one mode to dominate another. Earlier results indicate that a firm which faces demand uncertainty prefers price variability to quantity variability. It is shown by a counter example that the "price variability preference," which is troublesome for proponents of temporary fixed-price equilibrium models, is a consequence of restrictive stochastic specification. *Scand. J. Econ.*, 1987, 89(1), pp. 39-54. Swedish University of Agricultural Sciences, Umeå.

Loomes, Graham and Sugden, Robert—Some Implications of More General Form of Regret Theory

Regret theory entails the possibility of non-transitive pairwise choices. It therefore raises questions about how individuals choose from sets of more than two actions, especially when there exists a subset of pairs of actions over which preferences cycle. A generalization of regret theory is suggested and is compared and contrasted with P. Fishburn's generalization of skew-symmetric bilinear utility theory. It is also shown that under this generalization an

individual with non-transitive pairwise preferences will not be caught in a never-ending cycle and is not vulnerable to being "money-pumped" into bankruptcy. *J. Econ. Theory*, Apr. 1987, 41(2), pp. 270-87. University of York; University of East Anglia.

MacLeod, W. B.; Norman, G. and Thisse, J.-F.—Competition, Tacit Collusion and Free Entry

Few oligopoly models address the problem of tacit collusion when there is the possibility of entry. One model that does so is the well-known Löschian model of spatial competition. The purpose of this paper is to present a reexamination of this model within the context of game theory. The authors model the process leading to industry equilibrium with collusive behavior as a two-stage process. The first stage determines a free-entry equilibrium using Bertrand-Nash assumptions, while the second stage deals with the collusive selection of price. This solution is shown to be a subgame perfect Nash equilibrium. At equilibrium, firms make long-run excess profits even in the presence of free entry. *Econ. J.*, Mar. 1987, 97(385), pp. 189-98. Queen's University and CORE; University of Leicester and CORE; Catholic University of Louvain.

Matthews, Steven and Moore, John—Monopoly Provision of Quality and Warranties: An Exploration in the Theory of Multidimensional Screening

New ways of handling incentive constraints between nonadjacent types of buyer are used to solve a monopoly screening problem. The monopoly wishes to price discriminate by designing a product line of goods distinguished by different quality, warranty, and price attributes. The multidimensionality of the line causes the local approach usually taken to fail. The optimal product line is nevertheless fully characterized. Contrary to the result always obtained in simple models, attributes need not be monotone in buyer type, e.g., more eager types sometimes receive lower quality. *Econometrica*, Mar. 1987, 55(2), pp. 441-67. Northwestern University and the University of Pennsylvania; London School of Economics and Massachusetts Institute of Technology.

Perrakis, Stylianos and Warskett, George—Uncertainty, Economies of Scale, Barrier to Entry

Entry deterrence is examined under demand uncertainty and economies of scale. Both incumbent and potential entrant select capacity before demand is observed, provided expected discounted profit exceeds the cost of capacity (risk neutrality). As in the certainty case, entry deterrence is not profitable in the absence of economies of scale. However, Schmalensee recently proved another certainty result (that the monopoly profit stream which can be shielded from entry by economies of scale is bounded from above by the cost of minimum efficient scale) is not valid in the presence of uncertainty, even under risk neutrality. *Oxford Econ. Pap.*, Supp. Nov. 1986, 38, pp. 58–74. University of Ottawa; Carleton University.

Raubitschek, Ruth S.—A Model of Product Proliferation with Multiproduct Firms

This paper presents a model of product proliferation by multiproduct firms. Firm behavior is based on a two-stage process in which there is centralized decision making in new product introductions and decentralized management of existing products. In equilibrium, the number of products each firm has, as well as its total profits, are inversely related to the cost of introducing a new product and to the number of firms in the market. But, as the number of rivals increases, the total number of products in the market increases, although total industry profits decrease. *J. Ind. Econ.*, Mar. 1987, 35(3), pp. 269–79. New York University.

Raymon, Neil—Price Ceilings, Product Quality and Consumer Welfare

Sufficient conditions are presented such that imposition of a quality-invariant ceiling on output price leads to an upward shift in hedonic prices, causing every consumer's utility to fall. The conditions include: (1) a linear household technology, (2) (implicit) excess demand functions for qualitative attributes are decreasing in the ceiling, (3) attributes are gross substitutes. Condition (3) can be replaced with other assumptions, admitting attributes being gross complements. A class of examples indicates that if the ceiling is not quality-invariant, consumers

may be worse off or better off, depending on the function relating the price ceiling to quality. *J. Econ. (Z. Nationalök.)* 1986, 46(4), pp. 369–85. University of Missouri.

Reynolds, Stanley S.—Capacity Investment, Preemption and Commitment in an Infinite Horizon Model

The commitment value of capacity is analyzed in an infinite horizon duopoly model. The paper focuses on the role of alternative behavioral assumptions about the ability of firms to commit to investment paths. Each firm's investment strategy in a feedback Nash equilibrium is shown to be a decreasing function of its rival's current capacity. This creates an incentive for a firm to expand its capacity to preempt subsequent rival investment. In a precommitment equilibrium there are no incentives to invest preemptively. As a consequence, steady state capacity levels are greater in a feedback Nash equilibrium than in a precommitment equilibrium. *Int. Econ. Rev.*, Feb. 1987, 28(1), pp. 69–88. University of Arizona.

Roberts, John—A Signaling Mode of Predatory Pricing

Predatory pricing involves pricing lower in the presence of competition than would otherwise be optimal in order to deter entry, induce exit, or discipline (reduce the future output of) a rival. Signalling of private information about market conditions through price can give rise to predation aimed at the latter two objectives. However, in separating equilibrium, no extra exit or output reduction is induced relative to the full information benchmark. Nevertheless, such predation is not innocuous, because the expectation of its occurrence may reduce entry. *Oxford Econ. Pap.*, Supp. Nov. 1986, 38, pp. 75–93. Stanford University.

Sandelin, Bo—Some Unneoclassical Results in Neoclassical Investment Theory

This article builds on the investment models in the classic books by Erich Schneider (1944) and by Friedrich and Vera Lutz (1951). However, the author concentrates on a higher degree of endogeneity by postulating that the investor simultaneously determines the three dimensions: scale (number of machines), dura-

bility, or maturation time, and invested amount. This is decisive, and makes it possible to get untraditional comparative statics results in some cases. *Australian Econ. Pap.*, June 1986, 25(46), pp. 83-93. University of Gothenburg, Sweden.

Schwartz, Marius—The Nature and Scope of Contestability Theory

Contestability theory suggests that threat of entry may prevent monopolistic pricing even in a concentrated market because, if exit from the market is easy, monopolistic pricing would induce hit and run entry. This paper shows that, despite easy exit, hit and run entry is unprofitable if incumbents' price responses are sufficiently rapid. Only market data (not experimental) can reveal whether responses are sufficiently rapid; available evidence indicates they are. Another version of contestability theory stresses threat of entry through long-term contracts. This threat, too, is shown to be unlikely to check monopolistic pricing. *Oxford Econ. Pap.*, Supp. Nov. 1986, 38, pp. 37-57. Georgetown University and U.S. Department of Justice, Washington, D.C.

Simon, Leo K.—Bertrand Price Competition with Differentiated Commodities

This paper develops a general equilibrium, differentiated commodity version of Bertrand price competition. The author studies two related market games in which buyers as well as sellers announce both quantities and prices. In the first game, buyers' strategies are artificially restricted. The Nash allocations of this game will be nearly competitive, provided that the commodities supplied by sellers are sufficiently similar. In the second game, the restriction on buyers' strategies is relaxed and a stronger solution criterion, called local perfection, is invoked. The locally perfect equilibria of the unrestricted game coincide with the Nash equilibria of the restricted game. *J. Econ. Theory*, Apr. 1987, 41(2), pp. 304-32. University of California, Berkeley.

Suzumura, Kotaro and Kiyono, Kazuharu—Entry Barriers and Economic Welfare

The relationship between economic welfare and the number of firms in a quasi-Cournot

market is examined. The authors presuppose the existence of a strong ("first-best") government that can enforce the marginal-cost principle along with regulating the number of firms. It is shown that there exist excessive number of firms at the free-entry quasi-Cournot equilibrium relative to the "first best." The thrust of this result survives even if a utopian "first-best" government is replaced by a "second-best" government that leaves the firms to pursue their respective profit maximization freely and engages solely in regulating the number of firms. *Rev. Econ. Stud.*, Jan. 1987, 54(1), pp. 157-67. University of Pennsylvania and Hitotsubashi University; Gakushuin University.

Vives, Xavier—Small Income Effects: A Marshallian Theory of Consumer Surplus and Downward Sloping Demand

The author formalizes the Marshallian idea that when the proportion of income spent on any commodity is small then the income effects are small. If n is the number of goods, the author shows that the order of magnitude of the norm of the income derivative of demand is $1/\sqrt{n}$. As a corollary for the case of a single price change, the percentage error in approximating the Hicksian Deadweight Loss by its Marshallian counterpart goes to zero at least at the rate $1/\sqrt{n}$ and demand is downward sloping for n sufficiently large. *Rev. Econ. Stud.*, Jan. 1987, 54(1), pp. 87-103. University of Pennsylvania.

Weiss, Nitzan and Lee, Phil—Sustainability of the Multiproduct Monopoly and Ramsey-Optimal Pricing

This article is based on recent developments in the literature dealing with multiproduct cost concepts. Our article offers a set of conditions which are simultaneously necessary and sufficient for the prevention of competitive entry. These conditions include Ramsey-prices as a special case of sustainable prices. However, the above conditions show that, in the absence of regulation, the monopolist has no inducement to elect the Ramsey-optimal price-output vector from the set of sustainable vectors. Thus the pressure of potential entry does not assure that the public interest is served by a sustainable monopolist. *J. Inst. Theoretical Econ.*, Sept. 1986, 142(3), pp. 473-92. Columbia University; Korea University.

Wolinsky, Asher—Brand Names and Price Discrimination

This paper explains the fact that firms market both labeled and unlabeled products as a practice of price discrimination that emerges as a non-cooperative equilibrium outcome. The authors consider a market for a differentiated product where the possibility to price discriminate by the selective use of labels is due to the fact that buyers differ in the intensity of their preferences and that, before they buy, they are unable to distinguish among the different brands without the aid of identifying labels. *J. Ind. Econ.*, Mar. 1987, 35(3), pp. 255–68. The Hebrew University, Israel.

023 Macroeconomic Theory

Baldani, Jeffrey P. and Michl, Thomas R.—A Balanced Budget Multiplier for Interest Payments

This paper develops a two-class macroeconomic model in which the effects of the rising interest burden of the national debt can be studied. The model assumes all saving is done by property owners, the tax rate on property income is a fixed multiple of the tax rate on wage income, and the before-tax distribution of factor income is constant. A balanced budget increase in interest payments—i.e., an increase in interest payments subsequently financed by taxation—results in a lower level of national income because it redistributes disposable income from workers, whose saving propensity is low, to property owners, whose saving propensity is relatively high. *J. Post Keynesian Econ.*, Spring 1987, 9(3), pp. 424–39. Colgate University.

Cross, Rod B.—Hysteresis and Instability in the Natural Rate of Unemployment

In this paper, it is pointed out that the long-run Phillips curve genus contains upward and downward sloping species as well as the vertical species. Two models are used: in one the rate of inflation helps determine the natural rate of unemployment, as proposed by Milton Friedman; in the other the process of moving from one inflation rate to another helps shape the natural rate, according to the hysteresis effect proposed by Edmond Phelps. In both cases the resulting models are unstable, implying that a

vertical long-run Phillips curve will not be regained if disturbed. *Scand. J. Econ.*, 1987, 89(1), pp. 71–89. University of St. Andrews, Fife, Scotland.

De Long, James Bradford and Summers, Lawrence H.—Is Increased Price Flexibility Stabilizing?

This paper uses John Taylor's model of overlapping contracts to show that increased wage and price flexibility can easily be destabilizing because of the Mundell effect. While lower prices increase output, the expectation of falling prices decreases output. Simulations based on realistic parameter values suggest that increases in price flexibility might well increase the cyclical variability of output in the United States. *Amer. Econ. Rev.*, Dec. 1986, 76(5), pp. 1031–44. Harvard University.

Elliott, John E. and Clark, Barry S.—Keynes's *General Theory* and Social Justice

This paper examines four major aspects of Keynes's views on social justice as expounded in the *General Theory of Employment, Interest and Money*: (1) the criteria for Keynes's claim that wealth and income inequalities are excessive from the perspective of economic functionality; (2) Keynes's critique of interest income as nonfunctional; (3) Keynes's rejection of wage cutting as an antidepressionary strategy as unjust as well as inefficacious; (4) international implications of Keynes's contention that justice has positive, as well as normative, effects, making justice and efficacy complementary, is also adumbrated. *J. Post Keynesian Econ.*, Spring 1987, 9(3), pp. 381–94. University of Southern California; University of Wisconsin, La Cross.

Ellis, Christopher J. and Fender, John—Bargaining and Wage Resistance in an Open Macroeconomic Model

An open macroeconomic model where wages and employment are determined by bargaining between a representative firm and a representative union is developed. The model is characterized by a number of regimes; in each of these regimes the effects of changes in the terms of trade and in government expenditure on em-

ployment, the real wage and the balance of trade are analyzed. It is of particular interest that under certain circumstances real wage resistance is exhibited—that is, in response to a terms of trade deterioration, the real wage may not decline and may even increase. *Econ. J.*, Mar. 1987, 97(385), pp. 106–20. University of Oregon; Pennsylvania State University.

Foster, Gladys Parker—Financing Investment

The article analyzes two seemingly contradictory views on financing investment, both of which claim compatibility with Keynes's *General Theory*: the first, that aggregate investment generates aggregate saving and that therefore investment cannot be financed by prior saving and can only be financed by the creation of credit; and the second, that investment can be financed by prior saving as long as total output is not increasing and that therefore only increases in output require credit creation. The first view is found to be superior because the second is misleading if not inaccurate, but the difference is largely, perhaps entirely, semantic. *J. Econ. Issues*, Mar. 1987, 21(1), pp. 101–12. University of Colorado, Denver.

Franke, Reiner—On the Upper- and Lower-Bounds of Workers' Propensity to Save in a Two-Class Pasinetti Economy

In the two-class Pasinetti model it is asked in what range the propensities of workers to save permit the existence of an equilibrium if consumption of workers and capitalists is differentiated. In the multi-sectoral framework of quadratic Leontief techniques and production prices, an explicit upper bound is given. In particular, it depends on the consumption structure of workers, but not of capitalists. Whereas the lower bound is zero, this need not necessarily carry over to joint production systems, as is demonstrated by an example leading to two disjoint existence intervals. *Australian Econ. Pap.*, Dec. 1985, 24(45), pp. 271–77. University of Bremen, West Germany.

Fuhrer, Jeffrey C.—Information Gathering and Expectation Formation under Model Uncertainty

This paper integrates model uncertainty and information gathering into a single theory of

expectation formation. Agents learn about the true macroeconomic model and optimally choose whether and how much information to purchase. The model used to form expectations and the optimal amount of information gathered will depend critically upon the cost of information, prior assessments of the likelihood of competing models, the differences among the conditional distributions of the expectation variable implied by each model, and the potential economic loss from acting based upon an "incorrect" model. A simple economic model illustrates the expectation formation process. *Southern Econ. J.*, Jan. 1987, 53(3), pp. 685–701. Board of Governors of the Federal Reserve System.

Greenwood, Jeremy and Huffman, Gregory W.—A Dynamic Equilibrium Model of Inflation and Unemployment

A stochastic general equilibrium model is constructed which is capable of examining the covariance properties between inflation and unemployment, both conditioned and unconditioned upon the state of exogenous real and monetary factors. Indivisibilities introduced into agents' labor choice decisions produce unemployment in equilibrium. It is shown that indigenous forces in a competitive economy can result in the traditional negative relationship between inflation and unemployment. The policymaker, while perhaps observing a negatively sloped Phillips curve, actually faces Friedman's positively sloped one. *J. Monet. Econ.*, Mar. 1987, 19(2), pp. 203–28. University of Western Ontario and Rochester Center for Economic Research; University of Western Ontario.

Hansson, Ingemar—Classical, Keynes' and Neoclassical Investment Theory—A Synthesis

This paper presents an investment theory for the firm and the industry under rational expectations that encompasses: (1) classical capital theory; (2) a solid microeconomic basis for Keynes's investment theory; and (3) traditional neoclassical investment theory for the firm. These three types of investment theory are consequently complementary rather than contradictory. Classical capital theory is relevant for a comparative statics analysis of long-run equi-

libria. Keynes's investment theory is applicable for the determination of the industry's investment, given any expected paths for demand, supply, and technology. Neoclassical investment theory for the firm is relevant to analyze effects of changes that affect a single firm only. *Oxford Econ. Pap.*, July 1986, 39(2), pp. 305-16. University of Lund.

Jones, Stephen R. G. and Stock, James H.—Demand Disturbances and Aggregate Fluctuations: The Implications of Near Rationality

The paper investigates some properties of "near rational" models of the cycle, examining two types of framework. In the first, an otherwise classical, competitive economy is shown to respond to demand disturbances when some firms follow a near rational hiring policy. In the second model, a dynamic setting is addressed and a criterion termed "stochastic near rationality" is employed. Simulation results are consistent with recent empirical findings and suggest that further quantitative evaluation is merited. *Econ. J.*, Mar. 1987, 97(385), pp. 49-64. University of British Columbia; Harvard University.

Knoester, Anthonie—Okun's Law Revisited

Okun's Law focuses on the Keynesian explanation of unemployment. A serious drawback is that it does not contain any explicit treatment of the classical causes of unemployment. This paper suggests an amendment to Okun's Law which will contain the real wage rate and the investment ratio. It has been shown for Germany, the Netherlands, the United Kingdom, and the United States that inclusion of the classical determinants of unemployment improves the statistical quality of Okun's Law substantially. *Weltwirtsch. Arch.*, 1986, 122(4), pp. 657-66. Nijmegen University.

Leach, John E.—Optimal Portfolio and Savings Decisions in an Intergenerational Economy

An intergenerational economy in which transactions costs cause agents to diversify their portfolios is presented. Changes in the rate of monetary expansion lead to changes in the velocity of money. Earlier intergenerational models introduced this relationship in an *ad hoc* fashion by assuming that money yields direct utility.

The comparative statics of this model are significantly different from those of its predecessor. Greater inflation can lead to either a greater or a smaller capital intensity. The capital intensity corresponding to a constant money supply can be greater than, equal to, or less than golden rule capital intensity. *Int. Econ. R.* Feb. 1987, 28(1), pp. 123-34. McMaster University.

Peston, M. H.—The Elementary Macroeconomic Consequences of Differing Public and Private Sector Wages

This paper explores the macroeconomic consequences of differentiating public sector wage rates from private sector ones. It shows that within the usual comparative static macroeconomic model the effects of a reduction in money wages depend on which sector it happens in. This has significant consequences for incomes policy and the state of the government's budgetary position. *Public Finance*, 1986, 41(2), pp. 173-81. Queen Mary College, London.

Rowe, Nicholas—A Simple Macroeconomic Model with Monopolistic Firms

This paper presents a simple macroeconomic model in which firms outputs are imperfect substitutes, and explores the macroeconomic implications of monopolistic competition. The model is classical in some respects, but Keynesian in others. Multiple or unstable equilibria are not unlikely. Permanent price controls will, in principle, be desirable, since they allow a permanent and efficient increase in aggregate output. Small costs of price adjustment may induce large deviations of output from the natural rate. Fiscal policy will generally affect aggregate output, but the sign and magnitude of the government expenditure multiplier cannot be determined *a priori*. *Econ. Inquiry*, Jan. 1987, 25(1), pp. 83-102. Carleton University.

Tobin, James—The Future of Keynesian Economics

This paper was a dinner speech at the EEA meetings, marking the 50th birthday of Keynes's *General Theory*. Surveying contemporary macro controversy, the paper argues against "new classical" business cycle theories,

both "real" and "unreal," and criticizes "micro-foundations" methodology as Robinson Crusoe economics misapplied. Keynes's discussion of long-term expectation and investment is contrasted to "rational expectations" models. According to Keynes, investors and entrepreneurs face uncertain futures to which probability calculus cannot apply. Their attitudes toward the future are a source of exogenous fluctuations in investment and in economic activity, beyond the shocks of policies, tastes, and technologies other theorists recognize. *Eastern Econ. J.*, Oct.-Dec. 1986, 12(4), pp. 347-56. Yale University.

Wadhvani, Sushil B.—The Macroeconomic Implications of Profit Sharing: Some Empirical Evidence

This paper attempts an empirical assessment of Weitzman's proposition that profit sharing provides an antidote to stagflation. Taking Japan as an example of a profit-sharing economy, the author shows that it does not have either lower cyclical variability of output or lower inflation than other industrial countries. The authors then reject the propositions that in a profit-sharing economy: (1) aggregate demand shocks have a smaller effect on output deviations and (2) import price shocks and wage push have a smaller effect on inflation. Therefore, one should be wary of the claim that the Japanese case supports Weitzman's model. *Econ. J. Supp.* 1987, 97, pp. 171-83. London School of Economics.

Weitzman, Martin L.—Steady State Unemployment under Profit Sharing

This paper demonstrates how asymmetric treatment of high-seniority "insider" workers and non-tenured "outsiders" gives rise to bad macroeconomic steady states in a wage economy. The framework uses a Nash bargaining solution where workers may bargain over pay but firms control hiring. Profit sharing is then considered as an alternative payment mechanism having the automatically corrective incentive property that employers want to hire more outsiders. Given the assumptions of the model, it is shown that widespread profit sharing results in lower unemployment and more output even though it is individually rational for insid-

ers to prefer wages over profit shares. *Econ. J.*, Mar. 1987, 97(385), pp. 86-105. Massachusetts Institute of Technology.

024 Welfare Theory

Davies, James B.—Does Redistribution Reduce Inequality?

The steady-state effect on inequality of linear redistributive schemes based on the taxation of earnings, inheritances, or some combination of the two is examined. Dynasties that exhibit asexual reproduction and altruism are modeled. Earnings ability, which may be correlated across generations, is exogenous and drawn from a stationary distribution. Taxing inheritances increases inequality by reducing the intergenerational averaging of "luck." Taxing lifetime wealth or income adds a lump-sum tax on earnings, making redistribution more successful. However, this success is sensitive to the relative size of mean earnings and inheritances. *J. Lab. Econ.*, Oct. 1986, 4(4), pp. 538-59. University of Western Ontario.

Ebert, Udo—Size and Distribution of Incomes as Determinants of Social Welfare

The paper is concerned with the relationship between the inequality of income distributions and the social welfare they imply. Starting point is an ordering of income distributions in terms of inequality. Based on explicit value judgments about the trade-off between size and distribution of incomes, an ordering in terms of social welfare is derived. The welfare functions representing this ordering allow a size-distribution split up. It is shown that the procedure can be reversed. This ordinal approach is considerably more flexible and less arbitrary than most methods proposed in the literature. *J. Econ. Theory*, Feb. 1987, 41(1), pp. 23-33. University of Bonn.

Hau, Timothy D.—Distributional Cost-Benefit Analysis in Discrete Choice

The theory and practice of performing cost-benefit analysis in a distributional framework is explored within the discrete choice context. The social welfare methodology employed builds on the conventional Marshallian approach and the Hicksian approach to efficiency cost-benefit analysis developed by the author.

The theoretical framework is then applied to an eight-alternative demand-supply corridor simulation model of the San Francisco Bay Area. The equity impacts of a policy are analyzed by segmenting a sample according to income group and trip type. Various standard welfare functions are found to be particular parameterizations of a selected family of functional forms for distributional weights. *J. Trans. Econ. Policy*, Sept. 1986, 20(3), pp. 313-38. University of Hong Kong.

Hickerson, Steven R.—Instrumental Justice and Social Economics

In this paper, the intent is to identify the context and general nature of the social economics—instrumentalist contribution to the study and practice of economic justice. Arguing that the ethics and method of instrumentalism are consistent with the research agenda of social economics, the paper concludes that an instrumentalist conception of justice is also compatible with this agenda. Such a conception avoids the artificial dichotomization of means and ends implicit in the Rawls-Nozick debate, recognizing instead the logical inseparability of means and ends. A genuinely meaningful conceptualization of justice must address and integrate both process and distributive criteria. *Rev. Soc. Econ.*, Dec. 1986, 44(3), pp. 268-80. Mankato State University.

Lane, John and Leininger, Wolfgang—On Price Characterization and Pareto-Efficiency of Game Equilibrium Growth

A smooth aggregative model of economic growth is analyzed as a game between generations. The resulting (game-theoretic) equilibrium growth path is shown to give rise to a Pareto-efficient consumption stream. Specifically, the resolution of intertemporal conflicts by means of a (subgame) perfect Nash equilibrium of the game determines consumption and bequest behavior of each generation. For consumption and production programs resulting from differentiable equilibrium strategies a general and complete characterization in terms of "competitive" prices is given. From these prices one infers efficiency of the growth path and Pareto-efficiency of the corresponding consumption stream by standard methods. *J. Econ.*

(*Z. Nationalök.*), 1986, 46(4), pp. 347-67. London School of Economics; University of Bonn.

Le Breton, Michael and Trannoy, Alain—Measures of Inequality as an Aggregation of Individual Preferences about Income Distribution: The Arrowian Case

An inequality preorder is a preorder on a simplex that satisfies symmetry and strict Schur-convexity (the mathematical equivalent of the principle of transfers of A. C. Pigou and John Dalton). It is shown that individual inequality preorders cannot be aggregated to a collective one if we are interested in Kenneth Arrow's aggregation rules. The proof uses an interesting result of E. Kalai, E. Muller, and M. Satterthwaite (1979). Moreover, the authors prove further results for the aggregation of individual inequality indices when they allow cardinality and interpersonal comparability of utility. *J. Econ. Theory*, Apr. 1987, 41(2), pp. 248-69. University of Rennes and GREQE, France.

Ruiz-Castillo, Javier—Potential Welfare and the Sum of Individual Compensating or Equivalent Variations

The author investigates under which conditions the sign of the sum of both the individual compensating and equivalent variations correctly indicates changes in potential welfare. The author's results reproduce exactly those of Chipman and Moore for the National Income Test, which did not rely on individual measures of welfare directly related to consumers' preferences: (1) a necessary and sufficient condition for the new test to be valid is that individual preferences are identical and homothetic; and (2) if the distribution of income is constant and preferences are homothetic, then the new test is valid only if preferences are also identical. *J. Econ. Theory*, Feb. 1987, 41(1), pp. 34-53. Universidad Complutense de Madrid, Pozuelo, Espana.

Sah, Raaj Kumar—Queues, Rations, and Market: Comparisons of Outcomes for the Poor and the Rich

This paper presents a positive comparison of the outcomes of several alternative allocation systems (the queue system, convertible and

nonconvertible rations, and the unhindered market) to distribute the limited quantity of a deficit good among heterogeneous individuals. The authors show that, for the poor, the ranking of systems (from better to worse) is: convertible rations, nonconvertible rations, the queue system, and nonintervention. The rich are found to be better off under nonintervention than under other systems. These and other results are notably robust not only to many parameters of the economy, but also to certain types of commodity taxes and administrative costs. *Amer. Econ. Rev.*, Mar. 1987, 77(1), pp. 69-77. Yale University.

Scoggins, John Franklin—Welfare Evaluation and Household Production with Non-constant Returns to Scale

This paper modifies Shephard's lemma and Roy's identity to allow for a nonlinear budget constraint when measuring exact consumer's surplus. The nonlinear budget constraint can arise when a good is produced by a household with a nonconstant returns to scale technology. Functions analogous to Marshallian and income-compensated demand are derived. This model is useful in measuring the exact welfare effects of government induced changes in the prices or levels of household production factors. An example of this would be an energy conservation program that induces greater purchases of ceiling insulation than would otherwise occur. *Southern Econ. J.* Jan. 1987, 53(3), pp. 643-49. California State University, Long Beach.

Slesnick, Daniel T.—Welfare Distributional Change and the Measurement of Social Mobility

A new approach to the measurement of welfare distributional change and social mobility is developed. The novel feature of this model is the use of price dependent measures of individual and social welfare in evaluating the magnitude and direction of the movement in the distribution. In addition, the proposed indexes of mobility are decomposed into the sum of between-group and within-group mobility. Each measure is implemented for the United States over the period 1947-1982. It is found that in each year society is upwardly mobile

relative to the 1947 distribution. *Rev. Econ. Statist.*, Nov. 1986, 68(4), pp. 586-93. University of Texas.

Vaughan, R. N.—Welfare Approaches to the Measurement of Poverty

A set of poverty indices is constructed which is based on an explicit view of the loss of social welfare which results from the existence of poverty, in comparison to a society in which poverty has been eliminated. The indices are based on the entire distribution of income, rather than only the incomes of the poor, and thus embody the concept of relative deprivation. Formal properties of the indices are developed, together with their relationship to welfare based inequality indices; both are seen as subsets of a wider choice of measures dependent on a particular choice of "reference" distribution. *Econ. J.*, Supp. 1987, 97, pp. 160-70. University College, London.

Vega-Redondo, Fernando—Efficiency and Nonlinear Pricing in Nonconvex Environments with Externalities: A Generalization of the Lindahl Equilibrium Concept

It is a well known fact that if damaging externalities occur, nonconvexities will necessarily arise in the underlying economic environment rendering questionable the relevance of standard market approaches to the allocation problem. In response to this state of affairs, the author defines and studies a generalization of the Lindahl Equilibrium concept that allows for nonlinear pricing systems in which the marginal outlay may depend on the quantity purchased. This "Generalized Lindahl Equilibrium" attains local Pareto efficiency for its associated allocations and is able to support (in the usual sense) any Pareto-efficient allocation that satisfies a regularity condition. *J. Econ. Theory*, Feb. 1987, 41(1), pp. 54-67. Universidad Autonoma de Barcelona and University of Alicante and Instituto de Analisis Económico CSIC.

025 Social Choice

Atkinson, Anthony B.—James M. Buchanan's Contributions to Economics

This survey of James M. Buchanan's contributions to economics is divided into eight main categories: the influence of Knut Wicksell and

the pure theory of government finance; the Italian tradition and the burden of national debt; the calculus of consent; application of the public choice approach; application to public finance; public goods and clubs; fiscal constitutions; and the reason of rules. A bibliography of Buchanan's publications, 1949 to 1986, concludes the survey. *Scand. J. Econ.*, 1987, 89(1), pp. 5-15. London School of Economics and Political Science.

Nelson, Douglas and Silberberg, Eugene—Ideology and Legislator Shirking

The authors argue that legislator shirking (voting on the basis of personal ideology rather than the interests of one's constituents) can exist, but its appearance should conform to the law of demand. They test and confirm this theory using votes on defense expenditure bills in the U.S. Senate in 1982. The authors assume the cost of shirking is relatively higher on narrowly focused bills on specific weapons systems with well-defined beneficiaries, and relatively lower on general defense expenditure bills with uncertain final distribution of funds. Greater influence for senators' ideology in general versus specific bills is found. *Econ. Inquiry*, Jan. 1987, 25(1), pp. 15-25. U. S. Air Force Academy, Colorado Springs, Colorado; University of Washington.

Saari, Donald G.—The Source of Some Paradoxes from Social Choice and Probability

The geometric property of open sets being mapped to open sets is used to explain, unite, and extend several paradoxes coming from probability and social choice. In this way, several new results about the intransitivities of election rankings, the cycles of agenda manipulation, gambling, waiting times, and Simpson's paradox from conditional probability are obtained. *J. Econ. Theory*, Feb. 1987, 41(1), pp. 1-22. Northwestern University.

Saltzman, Gregory M.—Congressional Voting on Labor Issues: The Role of PACs

The author finds that the contributions of both labor and corporate political action committees (PACs) had a significant direct effect on the roll-call voting of members of the House of Representatives on labor issues in 1979-80,

even controlling for the Representative's political party and characteristics of the constituency. Since PAC money also affects roll-call voting indirectly (by influencing which party wins elections), its overall impact is probably substantial. The author also finds that labor PACs have focused more on influencing election outcomes than on carrying favor with powerful members of the House whose reelection is likely. *Ind. Lab. Relat. Rev.*, Jan. 1987, 40(2), pp. 163-79. Albion College and University of Michigan.

van Velthoven, Ben and van Winden, Frans—Social Classes and State Behavior

The paper studies the endogenization of state behavior in macroeconomic modeling, using the so-called interest function approach. The state is considered as a complex organization whose actions are, *inter alia*, determined by the interests of the different social classes and by their relative power vis-à-vis the state. The textbook Keynesian model is transformed into a politico-economic model. The dynamic version of the model takes account of the effect on state behavior of changes in the social power structure due to developments in the economic process. *J. Inst. Theoretical Econ.*, Sept. 1986, 142(3), pp. 542-70. Leyden University, Netherlands; University of Amsterdam.

026 Economics of Uncertainty and Information; Game Theory and Bargaining Theory

Allen, Beth—Smooth Preferences and the Approximate Expected Utility Hypothesis

Mild smoothness conditions on continuous complete preorders over lotteries imply that various local versions of the expected utility hypothesis are satisfied—i.e., for small deviations, there is a utility (representing the individual's preferences) that is linear in probabilities. For these results, notions of smooth preferences over an infinite dimensional set of probability measures are developed. *J. Econ. Theory*, Apr. 1987, 41(2), pp. 340-55. University of Pennsylvania.

Aoki, Masahiko—Horizontal vs. Vertical Information Structure of the Firm

This paper compares the efficiency of two information structures of the firm in coordinating

operational decisions among technologically-interrelated constituent units (shops) whose costs are uncertain. The structures compared are a hierarchical one in which the capability of management to monitor and respond to emergent events at the shop level is bounded; and a horizontal one in which production decisions are coordinated among shops without the centralization of information, but the capability of semiautonomous problem-solving by component units improves over time through learning-by-doing and better uses of on-the-spot knowledge. A comparison of Japanese and American practices precedes the analysis. *Amer. Econ. Rev.* Dec. 1986, 76(5), pp. 971-83. Stanford University and Kyoto University.

Aumann, Robert J.—Correlated Equilibrium as an Expression of Bayesian Rationality

If it is common knowledge that the players in a game are Bayesian utility maximizers who treat uncertainty about other players' actions like any other uncertainty, then the outcome is necessarily a correlated equilibrium. Random strategies appear as an expression of each player's uncertainty about what the others will do, not as the result of willful randomization. Use is made of the common prior assumption, according to which differences in probability assessments by different individuals are due to the different information that they have (where "information" may be interpreted broadly, to include experience, upbringing, and genetic makeup). *Econometrica*, Jan. 1987, 55(1), pp. 1-18. Hebrew University.

Barzel, Yoram—Knight's "Moral Hazard" Theory of Organization

In this paper the author suggests that besides Frank Knight's well recognized "uncertainty" explanation of the firm, he had another one. "Moral hazard" is the central feature in the second, largely overlooked theory. The author argues, and attempts to document, that this theory is not a chance excursion but is rather quite well developed by Knight. *Econ. Inquiry*, Jan. 1987, 25(1), pp. 117-20. University of Washington.

Eichenbaum, Martin S. and Peled, Dan—Capital Accumulation and Annuities in an Adverse Selection Economy

This paper suggests that adverse selection problems in competitive annuity markets can generate quantity-constrained equilibria in which some agents, whose length of lifetime is uncertain, find it advantageous to accumulate capital privately. This occurs despite the higher rates of return on annuities. The welfare properties of these allocations are analyzed. It is shown that the level of capital accumulation is excessive in a Paretian sense. Policies that eliminate this inefficiency are discussed. *J. Polit. Econ.*, Apr. 1987, 95(2), pp. 334-54. Carnegie-Mellon University; Carnegie-Mellon University and Technion, Haifa, Israel.

Engers, Maxim and Fernandez, Luis F.—Market Equilibrium with Hidden Knowledge and Self-selection

The problem of the existence of a competitive equilibrium in models with hidden knowledge and self-knowledge has been discussed previously by M. Rothschild and J. E. Stiglitz (1976), C. A. Wilson (1977), and J. G. Riley (1979). Recent analyses of such models by I. Cho and D. Kreps (1986) and Riley argue for a particular outcome—the Pareto-dominant separating, zero-profit one. The authors prove the existence of such an outcome under very general conditions and, generalizing the reactive equilibrium concept introduced by Riley, they prove this outcome is the unique reactive equilibrium. *Econometrica*, Mar. 1987, 55(2), pp. 425-39. University of Virginia; Oberlin College.

Fraser, R. W.—Uncertainty and Production Quotas

The introduction of a quota with a risk-neutral producer will lead to a reduction in planned production. Also, uncertainty influences planned production indirectly in a situation where over-quota production can be sold in an uncertain export market. The direction of this influence depends on the relationship between the producer's uncertainties of price and production. The welfare assessment of the impact of production quotas must incorporate the role of uncertainty. *Econ. Rec.*, Sept. 1986, 62(178), pp. 338-42. University of Western Australia, Nedlands.

Green, Jerry R. and Laffont, Jean-Jacques—
Posterior Implementability in a Two-Person
Decision Problem

When a decision rule is implemented using a Bayesian incentive compatible mechanism in which the messages are publically observable, the players' information is augmented by their observation of each others' strategies. In this paper the authors study the set of Bayesian implementable decision rules which have the further property that the information conveyed in the process of thier implementation does not invalidate the optimality of the players' strategies. Such rules are called *posterior implementable*. The authors concentrate on a two-person problem with two possible decisions and, for this problem, they obtain a complete characterization of the set of posterior implementable decision rules. *Econometrica*, Jan. 1987, 55(1), pp. 69-94. Harvard University; GREMAQ, Toulouse, France.

Harris, Christopher and Vickers, John—Rac-
ing with Uncertainty

The paper presents two models of races in which there is both technological uncertainty and strategic interaction between competitors. The authors' aim is to see how the efforts of competitors in a race vary with the intensity of rivalry between them. In the principal model, which is of a one-dimensional race, it is shown that the leader in the race makes greater efforts than the follower, and efforts increase as the gap between competitors decreases. Under certain conditions the same results hold in the second related model, which is of a two-dimensional race. *Rev. Econ. Stud.*, Jan. 1987, 54(1), pp. 1-21. Nuffield College, Oxford.

Holmstrom, Bengt and Milgrom, Paul—Aggre-
gation and Linearity in the Provision of Inter-
temporal Incentives

The authors develop two themes in the theory of incentive schemes. First, one need not always use all of the information available in an optimal incentive contract. Accounting information, which aggregates performance over time, is sufficient for optimal compensation schemes in certain classes of environments. Second, optimal rules in a rich environment

must work well in a range of circumstances and cannot, therefore, be complicated functions of the observed outcome. The authors illustrate these ideas in a particular model where the agent has a rich space of controls, showing that the unique optimal compensation scheme is a linear function of profits. *Econometrica*, Mar. 1987, 55(2), pp. 303-28. Yale University.

Jewitt, Ian—Risk Aversion and the Choice be-
tween Risky Prospects: The Preservation of
Comparative Statics Results

Most results in the comparative statics of risk aversion are obtained when there is only one source of uncertainty. The primary example is that more risk-averse people are willing to pay a higher premium of insuring against risk. It is known that the results do not generally carry over when there is another source of uncertainty. The paper develops conditions under which comparative statics results are robust against the introduction of additional sources of uncertainty. *Rev. Econ. Stud.*, Jan. 1987, 54(1), pp. 73-85. University of Bristol.

Karni, Edi—Generalized Expected Utility
Analysis of Risk Aversion with State-Depen-
dent Preferences

In this paper the author develops measures of absolute risk aversion for preference relations on risky prospects that are state-dependent and are representable by Frechet differentiable, nonlinear, functionals. A comparative statics analysis of optimal air travel insurance coverage illustrates the usefulness of the proposed measures. It is also demonstrated that the analytical framework described above is consistent with the purchase of air travel insurance even in circumstances where expected utility theory is not. *Int. Econ. Rev.*, Feb. 1987, 28(1), pp. 229-40. Johns Hopkins University.

LeRoy, Stephen F. and Singell, Larry D.,
Jr.—Knight on Risk and Uncertainty

It is argued that the received interpretation of Frank Knight's (1921) classic risk-uncertainty distinction—as concerning whether or not agents have subjective probabilities—constitutes a misreading of Knight. On the contrary, Knight shared the modern view that agents can

be assumed always to act as if they have subjective probabilities. The authors document their contention that by uncertainty Knight instead meant situations in which insurance markets collapse because of moral hazard or adverse selection. Knight's discussion of market failure, although always informal and in places inaccurate, was in many respects a remarkable anticipation of the modern literature. *J. Polit. Econ.*, Apr. 1987, 95(2), pp. 394-406. University of California, Santa Barbara and University of California, Berkeley; University of California, Santa Barbara.

Lippman, Steven A.; Mamer, John W. and McCardle, Kevin F.—Comparative Statics in Non-cooperative Games via Transfinitely Iterated Play

A. Tarski's fixed point theorem establishes the existence of a Nash equilibrium when (1) each player's lattice of strategies is complete and (2) the composite best response function is isotone. Supposing the composite best response function is also isotone in one of the underlying parameters, then the transfinite variant of iterated best response play is shown to "converge" and to produce an unambiguous comparative statics analysis. The efficacy of this approach is demonstrated with three examples. *J. Econ. Theory*, Apr. 1987, 41(2), pp. 288-303. University of California, Los Angeles; University of California, Los Angeles; Duke University.

Loomes, Graham and Sugden, Robert—Testing for Regret and Disappointment in Choice under Uncertainty

Much of the experimental evidence concerning violations of von Neumann-Morgenstern expected utility theory has been collected from experiments designed with conventional theory in mind and does not provide direct tests of alternative models such as regret theory and disappointment theory. This paper reports and discusses recent evidence produced by an experiment specifically designed to test for the impacts of regret and disappointment, and to indicate their relative importance. *Econ. J.*, Supp. 1987, 97, pp. 118-29. University of York; University of East Anglia.

Boell, Ailsa A.—Risk Aversion in Quiggin and Yaari's Rank-Order Model of Choice under Uncertainty

This paper studies the rank-dependent model of choice under uncertainty proposed by J. Quiggin in 1982 and elaborated by M. E. Yaari in 1984. First, a rigorous axiomatic foundation for the model is provided. A very close analogy with expected utility theory is drawn, permitting a considerably simplified treatment. Risk aversion and its measurement are then studied; two characterizations, one weaker and one stronger, are presented in addition to the one considered by Yaari. Lastly, risk aversion and other properties of the model are related to empirically observed departures from expected utility maximizing behavior. *Econ. J.*, Supp. 1987, 97, pp. 143-59. London School of Economics.

Segal, Uzi—The Ellsberg Paradox and Risk Aversion: An Anticipated Utility Approach

The paper describes a decision process under which it is rational to prefer a lottery with known probabilities to a similar ambiguous lottery where the decision maker does not know the exact values of the probabilities (the "Ellsberg paradox"). This is done by modeling ambiguous lotteries as two-stage lotteries, by assuming the independence axiom without the reduction of compound lotteries axiom, and by using the anticipated utility functional. This paper also gives conditions under which less ambiguity is preferred and presents some comparative statics analysis as well as some interpersonal comparisons. Finally, it proves that within the anticipated utility framework, risk and ambiguity are almost identical. *Int. Econ. Rev.*, Feb. 1987, 28(1), pp. 175-202. University of Toronto.

Williams, Steven R.—Efficient Performance in Two Agent Bargaining

This paper concerns *ex ante* incentive efficient performance in the bargaining of one buyer and one seller over a single item. For any element in a specified class of distributions of the buyer's and the seller's valuations of the item, all of the (interim) individually rational and efficient allocation rules are characterized. It is also shown that the "buyer's bid" and the "seller's price" double auctions are efficient for

all distributions in the specified class. These results are obtained by studying efficiency as a linear programming problem. *J. Econ. Theory*, Feb. 1987, 41(1), pp. 154-72. Northwestern University.

Yaari, Menahem E.—The Dual Theory of Choice under Risk

This paper investigates the consequences of the following modification of Expected Utility theory: instead of requiring independence with respect to probability mixtures of risky prospects, require independence with respect to direct mixing of payments of risky prospects. A new theory of choice under risk—a so-called Dual theory—is obtained. Within this new theory, the following questions are considered: (1) numerical representation of preferences; (2) properties of the utility function; (3) the possibility for resolving the "paradoxes" of Expected Utility theory; (4) the characterization of risk aversion; and (5) comparative statics. The paper ends with a discussion of other non-Expected Utility theories proposed recently. *Econometrica*, Jan. 1987, 55(1), pp. 95-115. Institute for Advanced Studies, Hebrew University.

027 Economics of Centrally Planned Economies
Haruna, Shoji—Random Input Price and the Theory of the Competitive Cooperative Firm

This paper examines a competitive cooperative firm under input price uncertainty, comparing it with a capitalist firm. The author shows that the firm with input price uncertainty produces output with a smaller capital-labor ratio than that of the certainty equivalent twin. Further, it is shown that the effects of a change in uncertainty on capital, labor, and output are the same as the effects of a change in wage; however, the effects of output price changes are exactly the opposite. In general, results cannot be inferred concerning the behavior of the cooperative firm from the behavior of the capitalist firm. *J. Compar. Econ.*, Mar. 1987, 11(1), pp. 81-95. Ohita University, Japan.

**030 HISTORY OF ECONOMIC THOUGHT;
METHODOLOGY**

031 History of Economic Thought

Anlt, Richard W. and Ekelfund, Robert B., Jr.—The Problem of Unnecessary Originality in Economics

The role of the "literature search" in the creative process of theory development is the subject of this paper. Using a case study from the theory of public utilities (peak-load pricing), the paper develops a "positive" economic approach to the subject of originality by identifying some of the costs and benefits of the practice of the methods of the intellectual historian. The paper concludes that use of these methods, together with changes in reviewing procedures, tenure laws, etc., would have a predictable and beneficial impact of eliminating unnecessary originality in the development of economic theory. *Southern Econ. J.*, Jan. 1987, 53(3), pp. 650-61. Auburn University.

Baron, Samuel H.—Was Križanić a Mercantilist?

This paper concerns the economic thought of Križanić (1618-1683) with regard to Muscovite Russia, as set forth in his *Politika*. The conclusion: Križanić was a mercantilist, but of a particular kind. Mercantilism varied a good deal according to time, place, and expositor. The mercantilism of Križanić has much in common with that found elsewhere in Europe, but it also has special features, which derive from the facts that: (1) as a priest, he was steeped in Catholic thought; and (2) Muscovite Russia was an exceptionally backward country vis-à-vis most of Europe in the seventeenth century. *Hist. Polit. Econ.*, Spring 1987, 19(1), pp. 67-86. University of North Carolina.

Bodily, Christopher L.—Henry David Thoreau: The Instrumental Transcendentalist?

Both New England transcendentalism and institutionalism are unique strands of the American intellectual tradition. This essay attempts to open a dialogue between these traditions and to explore the possibility of including Henry David Thoreau in the rich heritage of institutional thought. The pivotal role of intuition emerges from a discussion of the similarities between the transcendental principles of Thoreau's life and work and the development of the instrumental theory of value within institutionalism. This essay concludes that if there is room for intuition within instrumentalism, then there is room for Thoreau in the history of institutional thought. *J. Econ. Issues*, Mar. 1987,

21(1), pp. 203-18. University of California, Santa Cruz.

Bostaph, Samuel and Shieh, Yeung-Nan—Jevons's Demand Curve

Historians of the early development of mathematical economics have questioned W. S. Jevons's claim of priority over Fleeming Jenkin in the use of graphic demand and supply curves. This article argues that Jevons has general priority in that, using applied econometrics, he derived and presented the long-run demand curve for corn in his classes at Owens College before Jenkin published his own graphic and hypothetical short-run supply and demand analysis. The article also provides some insight into Jevons's conception of demand and supply relations and how they differed from those of A. A. Cournot, J. Dupuit, and A. Marshall. *Hist. Polit. Econ.*, Spring 1987, 19(1), pp. 107-26. University of Dallas, Irving; University of Alaska, Fairbanks.

Cookingham, Mary E.—Social Economists and Reform: Berkeley, 1906-1961

This article traces the origin, growth and significance of social economy within the Berkeley economics department. At Berkeley this was a subfield within economics for over twenty years. These social economists were extremely active in legislative reform and in the collection of socioeconomic data. They were involved in all aspects of the economics department and interacted with other members of the department in research throughout the department's formative years. While not a comprehensive history of the department, this article highlights much of its history, including its recruitment policies, its relationship with Wisconsin, and the California Oath Controversy of the early 1950s. *Hist. Polit. Econ.*, Spring 1987, 19(1), pp. 47-65. Michigan State University.

Ekelund, Robert B. Jr. and Shieh, Yeung-Nan—Dupuit, Spatial Economics, and Optimal Resource Allocation: A French Tradition

This paper uncovers and develops nineteenth-century engineer Jules Dupuit's pivotal role in the independent French tradition in spatial economic analysis. Dupuit's invention of market area studies and (approximately first-de-

gree) spatial price discrimination is illustrated with a simple mathematical model. Next, Dupuit's conception of optimal toll structures and their relation to efficient transport systems, regulation, and economic welfare is analyzed and shown to contain a remarkably modern case for transport deregulation. The paper also assesses Dupuit's role in the development of spatial economics and in the French contribution to the location paradigm in microeconomic analysis. *Economica*, Nov. 1986, 53(212), pp. 483-96. Auburn University.

Gilbert, Geoffrey N.—W. F. Lloyd and Socialism: A Note

The question has been raised whether, in the writings of English classical economist W. F. Lloyd (1794-1852), there are "foreshadowings of socialist thought." Textual evidence has been produced on both sides of the issue. This note cites evidence previously overlooked and finds Lloyd highly skeptical toward "systems of equality" on three grounds: lack of work incentives, waste of resources, and tendency toward overpopulation. Lloyd's 1837 critique of the equalitarian principle, though condensed and abstract, is actually more encompassing than that of his better-known predecessor, Malthus. *Australian Econ. Pap.*, June 1986, 25(46), pp. 144-46. Hobart and William Smith Colleges.

Kleiman, Ephraim—'Just Price' in Talmudic Literature

The *Ona'a* ("overreaching") rule is the Talmudic forerunner of the *justum pretium* of medieval scholastic thought. To the Rabbinical sages, overreaching consisted of a significant departure from the law of the one price. The rule was motivated by a wish to prevent inequality of information from having distributional effects. But an analysis of the different opinions as to what constitutes an infringement, and of some associated rules, makes it possible to identify the underlying conceptualization of markets and prices. The Talmudic discussion reveals rudimentary protoeconomic theorizing, reflecting the conditions of the predominately agricultural society in which it evolved. *Hist. Polit. Econ.*, Spring 1987, 19(1), pp. 23-45. Hebrew University, Jerusalem.

Hamada, Koichi—The Impact of the *General Theory* in Japan

The *General Theory* was introduced to Japan immediately after its publication, and its Japanese translation published in 1941 sold nearly 9,000 copies. The influence of the textbook version of Keynesian economics began after World War I. This paper describes the strong impact of Keynesian economics on Japanese academics where the influence of neoclassical economics had not been so strong until the 1960s. Policy makers also accepted the analytical framework of Keynesian thinking, but actual policy formation may not have been strongly conforming to the Keynesian policy prescriptions, because of various constraints like the balanced budget principle. *Eastern Econ. J.*, Oct.–Dec. 1986, 12(4), pp. 451–66. Yale University.

Larson, Bruce—Bickerdike's Life and Work

This paper relates the principle details of the life and work of Charles Frederick Bickerdike (1876–1961). Bickerdike is shown to have made significant contributions to tariff theory, the acceleration principle, the multiplier, growth theory, and the analysis of external effects. These writings were principally influenced by the work of F. Y. Edgeworth and A. C. Pigou. As Bickerdike's work foreshadowed later developments in British economics, it is suggested that further study of Edgeworth and Pigou will yield a more continuous view of the development of British economics. *Hist. Polit. Econ.*, Spring 1987, 19(1), pp. 1–21. University of North Carolina, Asheville.

Mattson, Vernon and Tilman, Rick—Thorstein Veblen, Frederick Jackson Turner, and the American Experience

This paper compares the strikingly different views and attitudes toward America of Frederick Jackson Turner (1861–1932) and Thorstein Veblen (1857–1929). Although these scholars were among the most influential American thinkers of their time and in particular were sometimes lumped together as influential progressives in the period 1901–16, heretofore no systematic effort has been made to contrast their respective "progressive" and "radical" views of the American experience. This com-

parative treatment offers instructive perspectives for assessing the contributions and significance of these social theorists. *J. Econ. Issues*, Mar. 1987, 21(1), pp. 219–35. University of Nevada, Las Vegas.

Mumy, Gene E.—Silences in Ricardo: Comparative Advantage and the Class Distribution of Free Trade Benefits

David Ricardo's theory of economic growth depends crucially on his theory of the distribution of output among the three major economic classes he designates. Interestingly, however, his analysis of the gains from free trade based on comparative advantage is carried out in the supra-class terms of augmenting a nation's riches. The purpose of this paper is to examine the class distribution of free trade benefits in a manner consistent with Ricardo's growth theory. In this context, it is shown that free trade is not necessarily advantageous for a country's economic growth and the welfare of a considerable part of its population. *Rev. Soc. Econ.*, Dec. 1986, 44(3), pp. 294–305. Ohio state University.

Perlman, Morris—Of a Controversial Passage in Hume

David Hume's (1955) analysis of how a change in the quantity of money can have a temporary effect on real income has been variously interpreted and misinterpreted for over two hundred years. A possible reason for some misinterpretation is Hume's archaic use of the term "labor." With the correct interpretation, which is consistent with Hume's other theories and in particular his theory of the interest rate, the reason for the temporary effect on real income is that prices lag behind money wages, and a rise in real wages leads to an increased supply of effort. *J. Polit. Econ.*, Apr. 1987, 95(2), pp. 274–89. London School of Economics.

Pullen, John M.—Some New Information on the Rev. T. R. Malthus

Letters, testimonials, and other documents contained in the Winchester diocesan records, but hitherto unpublished, throw light on the circumstances of Malthus's clerical career and on the orthodoxy of his theological opinions. *Hist. Polit. Econ.*, Spring 1987, 19(1), pp. 127–

40. University of New England, Armidale, Australia.

Rashid, Salim—Historical Notes on the Origins of Supply-Side Economics and Its Ethical Roots: Say's Law, Smith's Law, or Moral Law?

It is argued in this essay that the primary theoretical assumption supporting supply-side economics is the assumption of full-employment. A variety of historical instances are provided to demonstrate that this assumption has long been recognized as a critical one. The historical dominance of the supply-side view is then traced to its ethical underpinnings. *Quart. Rev. Econ. Bus.*, 26(4), pp. 22-34. University of Illinois.

Reid, Gavin C.—Disequilibrium and Increasing Returns in Adam Smith's Analysis of Growth and Accumulation

Smithian growth is seen as having at its core a sectoral model, with many, if not all, sectors subject to increasing returns, and growth taking place at a rate which is variable through time and across sectors, in response to disequilibria. The final outcome of all this is stationarity. The division of labor modifies linearly homogeneous production functions so that they exhibit increasing returns; this effect is modeled explicitly. It is then used to extend the Young-Kaldor analysis of Smithian growth. *Hist. Polit. Econ.*, Spring 1987, 19(1), pp. 87-106. University of Edinburgh.

Rima, Ingrid H.—The Pigou-Keynes Controversy about Involuntary Unemployment: A Half-Century Reinterpretation

This paper reexamines the controversy between Keynes and Pigou to reaffirm the basis for the concept of involuntary unemployment. Keynes's argument was that an inflationary policy to cut real wages will affect the labor market perversely because the real wage does not measure the marginal disutility of labor. A real wage cut calls forth an increased labor supply (appropriately represented by a rightward shift of the supply curve) as workers try to preserve conventional living standards at higher prices. Unless the real wage cut increases the aggregate demand for labor sufficiently to provide em-

ployment for the increased supply, there will be unemployment which is involuntary in the Keynesian sense. *Eastern Econ. J.*, Oct.-Dec. 1986, 12(4), pp. 467-77. Temple University.

Tilman, Rick—Grace Jaffé and Richard Ely on Thorstein Veblen: An Unknown Chapter in American Economic Thought

One chapter of Richard Ely's unpublished manuscript *The Story of Economics in the United States* was a collaborative effort with Grace Jaffé on the subjective of Thorstein Veblen. While finding much of value in Veblen's writings, they criticized him from the perspective of liberal reformism. His radical critique of neoclassical economics and American capitalism was too extreme, and his empirically valid insights and value-laden doctrines were so interwoven as to seriously compromise the scientific integrity of his theories. His work would have more lasting value had he acted less as a propagandist and more as a scientific economist. *Hist. Polit. Econ.*, Spring 1987, 19(1), pp. 141-62. University of Nevada, Las Vegas.

036 Economic Methodology

Arouh, Albert—The Mumpsimus of Economists and the role of Time and Uncertainty in the Progress of Economic Knowledge

Radical change in economic theory has found stubborn resistance (what Joan Robinson has called "mumpsimus") from orthodox economists. Despite Keynes's revolutionary theories concerning time and uncertainty, the neoclassical synthesis regressed to a new classical world of timelessness and near certainty. Such resistance cannot be justified either by appeals to instrumentalism and innocuous falsificationism, or by appeals to criteria of progress implied in I. Lakatos and L. Laudan. If uncertainty (as distinguished from risk) means inherent instability, then it has subversive ideological connotations, which is why its use in economic theory is resisted. *J. Post Keynesian Econ.*, Spring 1987, 9(3), pp. 395-423. American College of Greece, Athens.

040 ECONOMIC HISTORY

041 Economic History: General

Clark, Gregory—Why Isn't the Whole World Developed? Lessons from the Cotton Mills

In 1910 one new England cotton textile operative performed as much work as 1.5 British, 2.3 German, and nearly 6 Greek, Japanese, Indian, or Chinese workers. Input substitution and differences in technology, management, and workers' training or inherent abilities do not explain this. Instead, local culture seems to have determined worker performance. Such differences, if widespread, would explain much of the international variation in wages. They also have important consequences for understanding labor migration, the choice of technique, and the sources of economic growth. *J. Econ. Hist.*, Mar. 1987, 47(1), pp. 141-73. Stanford University.

Meiners, Roger E. and Nardinelli, Clark—What Has Happened to the New Economic History?

The new economic history, or cliometrics, has transformed the study of economic history in recent decades. The two main branches of cliometrics, economic history and the property rights approach, both emphasize the application of explicit theory to historical events. The result has been substantial and sometimes startling revisions of conventional historical wisdom. Despite its successes, the new economic history has been criticized vigorously and has seen its influence with historians and economists decline. The authors offer an explanation for that decline. *J. Inst. Theoretical Econ.*, Sept. 1986, 142(3), pp. 510-27. Clemson University.

042 Economic History: United States and Canada

Lewis, Frank and MacKinnon, Mary—Government Loan Guarantees and the Failure of the Canadian Northern Railway

The failure of the Canadian Northern Railway is analyzed with a model of optimal capital structure drawn from finance theory. *Ex ante* bankruptcy probabilities, which are computed on the basis of different assumptions about investors' expectations, range from 40 to 90 percent; and the authors' best estimate is about 70 percent. These high probabilities were a consequence of loan guarantees provided to the Canadian Northern by the federal and provincial governments. The guarantees induced the railway's promoters to undertake an *ex ante* un-

profitable project and to finance that project almost exclusively with debt. *J. Econ. Hist.* Mar. 1987, 47(1), pp. 175-96. Queen's University.

Mills, Geoffrey and Rockoff, Hugh—Compliance with Price Controls in the United States and the United Kingdom during World War II

The authors are concerned here with the evasion of price controls in the United States and the United Kingdom during World War II. The evidence suggests that controls produced less evasive activity in the United Kingdom. After considering several explanations they conclude that the key was the degree of regimentation. The British controlled all stages of production, limited the range of products available at each stage, and allocated relatively more resources to managing and enforcing controls. *J. Econ. Hist.*, Mar. 1987, 47(1), pp. 197-213. University of Northern Iowa, Cedar Falls; Rutgers University.

Whitley, Warren C.—Southern Agrarian Labor Contracts as Impediments to Cotton Mechanization

The traditional view of cotton mechanization, first advanced by rural sociologists in the 1920s, is that Southern agrarian institutions impeded progress. Recently their view has been questioned. New studies attribute much of the Southern lag to factors like small-scale production, cheap labor, the cotton crop, and environment. The author contributes to the debate by emphasizing how the structure of the Southern economy encouraged landlords to use annual labor contracts that hindered attempts to mechanize. He presents evidence that supports the traditional view and suggests how the incentive structure of annual labor contracts delayed invention of the mechanical cotton picker. *J. Econ. Hist.*, Mar. 1987, 47(1), pp. 45-70. University of Michigan.

044 Economic History: Europe

Heim, Carol E. and Mirowski, Philip—Interest Rates and Crowding-out during Britain's Industrial Revolution

Available evidence on interest rates and government borrowing during Britain's industrial

revolution, while limited, does not support the idea that war spending crowded out private investment. This article demonstrates the importance of using data on net receipts from borrowing, rather than changes in government debt: weaknesses of the crowding-out model concerning capital markets and investment, openness of the economy, and full employment are identified for the historical case. The case raises broader issues of whether conceptions of saving and investment based on neoclassical supply-constrained models are as appropriate as theories of capital accumulation. *J. Econ. Hist.*, Mar. 1987, 47(1), pp. 117-39. University of Massachusetts; Tufts University, Medford.

ones, S. R. H.—Technology, Transaction Costs, and the Transition to Factory Production in the British Silk Industry, 1700-1870

Scholars still disagree about why nineteenth-century Britain adopted the factory system. Traditional historians emphasize the scale requirements of new technology; radical economists stress the possibilities that factory production held for worker exploitation; other economists and economic historians argue that the factory system was preferred because of its superior transaction-cost properties. This paper tests these competing hypotheses by examining the technological and organizational developments in the British silk industry. It concludes that in this industry, technological factors were primarily responsible for the adoption of the factory system. *J. Econ. Hist.*, Mar. 1987, 47(1), pp. 71-96. University of Auckland, New Zealand.

teal, Larry—The Integration and Efficiency of the London and Amsterdam Stock Markets in the Eighteenth Century

This article explores the operation of the international capital market between Amsterdam and London in the early eighteenth century and concludes that both markets were efficient and well integrated from 1723 on. *J. Econ. Hist.*, Mar. 1987, 47(1), pp. 97-115. University of Illinois, Urbana.

ices, Jacob M. and Clemens, Paul G. E.—A Revolution of Scale in Overseas Trade: British Firms in the Chesapeake Trade, 1675-1775

In seventeenth-century England the relatively open trades to America attracted ventures by hundreds of small merchants and shopkeepers. This ease of entry was checked after 1785 by very high customs duties on tobacco and intense regulation. Between 1685 and 1775 the number of firms in that trade was radically reduced and the size of the average firm increased ten to thirtyfold. Comparable if less extreme trends can be detected in the sugar, slave, and Levant trades. Insurance enabled large firms to use shipping more efficiently. The increased availability of credit also benefited larger and more secure firms. *J. Econ. Hist.*, Mar. 1987, 47(1), pp. 1-43. University of Michigan; Rutgers University.

050 ECONOMIC SYSTEMS

053 Comparative Economic Systems

Stollar, Andrew J. and Thompson, G. Rodney—Sectoral Employment Shares: A Comparative Systems Context

This paper presents estimation results for a reduced-form equation that is formulated to explain variation in relative sectoral employment shares of agriculture, industry, and services between market and socialist countries. Covariance analysis is employed to test for parameter constancy between the types of economic systems and over time. The results indicate that while the same variables influence sectoral employment shares in both types of economic systems, the parameter coefficients of the reduced-form equations vary between market and socialist economies, and intertemporally. Additionally, estimates of the gaps between "normal" and actual shares are presented for socialist countries for all three sectors. *J. Compar. Econ.*, Mar. 1987, 11(1), pp. 62-80. Bentley College, Waltham, Massachusetts; Virginia Polytechnic Institute and State University.

100 Economic Growth; Development; Planning; Fluctuations

110 ECONOMIC GROWTH; DEVELOPMENT; AND PLANNING THEORY AND POLICY

111 Economic Growth Theory and Models

Chang, Fwu-Ranq and Malliaris, A. G.—Asymptotic Growth under Uncertainty: Existence and Uniqueness

This paper demonstrates, using the Reflection Principle, the existence and uniqueness of the solution to the classic Solow equation under continuous time uncertainty for the class of strictly concave production functions which are continuously differentiable on the nonnegative real numbers. This class contains all CES functions with elasticity of substitution less than unity. A steady-state distribution also exists for this class of production functions which have a bounded slope at the origin. A condition on the drift-variance ratio of the stochastic differential equation alone is found to be necessary for the existence of a steady state. *Rev. Econ. Stud.*, Jan. 1987, 54(1), pp. 169-74. Indiana University; Loyola University.

Manning, Richard—Optimal Human and Physical Capital Accumulation in a Fixed-Coefficients Economy

This paper shows the existence and nature of optimal policies of accumulation of physical and human capital for an economy with everywhere fixed coefficients. The long run is described by a "golden-rule," which generalizes earlier results on education and growth but which, unlike them, does not permit the separation of the education sector from the rest of the economy. The adjustment of prices and quantities of the assets to long-run equilibrium is not monotonic in general. *Australian Econ. Pap.*, Dec. 1985, 24(2), pp. 258-70. University of Canterbury, Christchurch, New Zealand.

Nishimura, Osamu and Nakao, Takeo—A Note on the Golden-Rule Condition in the Overlapping Generations Growth Model

This paper examines the existence problem of the stationary state that maximizes per capita utility in Samuelson-Diamond model of overlapping generations combined with the post-Keynesian model of capital growth. Since in a life-cycle consumption model the consumer's decision depends on capital intensity, the relation between consumer's utility and capital intensity is not as simple as in the post-Keynesian model of capital growth. In this paper the authors show that a unique and stable stationary state is a local minimum, if it satisfies the well-known Swan-Phelps golden-rule production relation. *Manchester Sch. Econ. Soc. Stud.*, Dec.

1986, 54(4), pp. 420-24. Doshisha University, Japan.

Thirlwall, A. P.—A General Model of Growth and Development on Kaldorian Lines

This paper develops a "longitudinal" model of economic development, which formally models the complementarity between "agricultural" growth and industrial growth in the early stages of development in a closed economy, and stresses the importance of export growth in the later stages in the open economy as the main source of autonomous demand for industrial output. The importance of an equilibrium terms of trade between industry and agriculture in the closed economy model is clearly brought out, as well as the consequences of disequilibrium. *Oxford Econ. Pap.*, July 1986, 38(2), pp. 199-219. University of Kent.

112 Economic Development Models and Theories
Ghosh, Dipak—Fix Price-Flex Price in Development Economics

In this paper, an attempt has been made to examine the link between inflation and unemployment in a developing country. An expansion of employment opportunities in these economies results in an increase in the demand for foodgrains. Prices of foodgrains being demand determined (flex price), this can cause the wage cost to increase, via an increase in the cost of living. Prices of most industrial goods being determined by cost of production (fix price), an increase in the wage cost causes prices of industrial goods to increase, thus giving rise to inflationary pressure for the economy as a whole. *Australian Econ. Pap.*, June 1986, 24(46), pp. 122-27. University of Stirling, Scotland.

Heady, Christopher—Designing Taxes with Migration

This paper analyzes the design of optimal taxes in less developed countries that suffer from excess rural-urban migration and reports results from a numerical model. These results illustrate the importance of both restrictions on the government's tax powers and the nature of the migration process in determining the optimal pattern of taxation. They also demonstrate that, under a very wide variety of circumstances, the existence of a fixed wage in the

urban area makes wage subsidies desirable even if they have to be financed by taxes on the poorest sections of society. *Econ. J., Supp.* 1987, 97, pp. 87-98. University College, London.

van der Willigen, Tessa A.—Cash Crop Production and the Balance of Trade in a Less Developed Economy: A Model of Temporary Equilibrium with Rationing

This paper investigates a model of temporary equilibrium with rationing for a less developed economy (e.g., Tanzania) suffering balance-of-payments problems as a result of declining cash crop production. The model consists of an agricultural sector producing cash and subsistence crops, an industrial sector, and a foreign trade sector. It shows that declining cash crop production may be due primarily to rationing of industrial goods and that increasing the producer price of the cash crop—whether relative to the subsistence crop or the general price level—may have perverse effects. *Oxford Econ. Pap.*, Nov. 1986, 38(3), pp. 424-42. Wolfson College, Oxford.

113 Economic Planning Theory and Policy

Dugger, William M.—Democratic Economic Planning and Worker Ownership

Increased worker participation in decision making, perhaps in the form of worker ownership, would insure that the economic planning urged by institutional economists would remain democratic. And since not even the most beautiful of worker cooperatives will naturally coordinate its activities with the requirements of other cooperatives, even a system based on worker ownership needs national planning. Grassroots worker participation and democratic economic planning make the institutionalism of Thorstein Veblen's modern followers a very different system than the corporatism of the conservative thinkers who follow Oliver E. Williamson. *J. Econ. Issues*, Mar. 1987, 21(1), pp. 87-99. DePaul University.

114 Economics of War, Defense, and Disarmament

Dypher, James M.—Military Spending, Technical Change and Economic Growth: A Disguised Form Of Industrial Policy?

The effect of military spending on the macroeconomy is too limited and inconsistent to support the idea that it functions as a sub rosa industrial policy. Military spending does not seem to crowd out civilian research and development, nor is it found to be a source of the productivity crisis. Military spending has been strongly associated with basic innovations in the postwar period. Currently the military is developing its manufacturing technology program designed to create the "factory of the future" and foster numerous innovations. The United States continues to rely upon the military to revitalize the forces of production. *J. Econ. Issues*, Mar. 1987, 21(1), pp. 33-59. California State University, Fresno.

Murdoch, James C. and Sandler, Todd—The Political Economy of Scandinavian Neutrality

The article examines whether three of the neutral nations of Europe (Sweden, Switzerland and Finland) have adhered to their choice of armed neutrality by being self-reliant on their own defenses. Using a joint product model, the authors specify a reduced-form equation for a nation's demand for military expenditures. Empirical estimates of these demands suggest that Sweden free rode on NATO after institution of the doctrine of flexible response; however, the other two neutral nations have been self-reliant throughout the period 1957-82. With pooled data, cross-equation restrictions highlight the essential differences between NATO and nonaligned Scandinavian countries. *Scand. J. Econ.*, 1986, pp. 88(4), 583-603. Auburn University; Iowa State University.

120 COUNTRY STUDIES

124 Economic Studies of Centrally Planned Economies

Urata, Shujiro—Sources of Economic Growth and Structural Change in China: 1956-1981

This paper decomposes the growth of output in the People's Republic of China from 1956 to 1981 into changes in consumption and investment demand, intermediate input use, and foreign trade. The distribution between consumption and investment fluctuates in response to economic policies, while foreign trade dependence has grown over the sample period. Intermediate input consumption, calculated by

means of an input-output table, increased after 1965. A comparison with the experience of similar countries is also presented. *J. Compar. Econ.*, Mar. 1987, 11(1), pp. 96-115. Waseda University, Tokyo.

130 ECONOMIC FLUCTUATIONS; FORECASTING;
STABILIZATION; AND INFLATION

131 Economic Fluctuations

Layton, Allan P.—A Causality Analysis of Australia's Growth Cycle and the Composite Index of Leading Indicators

The paper extends recent turning point analyses into the relationship between Australia's leading and coincident indexes of economic indicators. An empirically specified dynamic regression model linking the two measures of activity is used to test for the existence of Granger causality (1969, 1980). The specification procedure followed is that of L. Haugh and G. E. P. Box (1977). The analysis supports the existence of unidirectional causality from the leading to the coincident index. The lag involved was found to be five months. These findings provide further, more exhaustive evidence that the constructed index of leading indicators systematically anticipates future fluctuations in aggregate Australian economic activity. *Australian Econ. Pap.*, June 1986, 25(46), pp. 57-66. Macquarie University, Sydney.

132 Forecasting: Econometric Models

Edison, Hali J.—The U.K. Sector of the Federal Reserve's Multicountry Model: The Effects of Monetary and Fiscal Policies

The purpose of this paper is to describe and to analyze in some detail the U.K. sector of the Federal Reserve's Multicountry Model (MCM). The analysis focuses on the effects of shifts in U.K. monetary and fiscal policies at three levels: (1) within the unlinked U.K. sector, (2) within the linked MCM framework, and (3) within the linked MCM under the assumption that U.K. policy shifts are synchronized with those in the MCM other countries. The contrast between linked and unlinked simulation illustrates the importance of international feedback effects. *Manchester Sch. Econ. Soc. Stud.*, Dec. 1986, 54(4), pp. 403-19. Board of Governors of the Federal Reserve System.

Hall, Stephen G.; Henry, S. G. B. and W. Lewis, Simon—Manufacturing Stocks Forward-Looking Expectations in the U

This paper derives a model of the stocks price based on optimal behavior by the firm when facing adjustment costs with forward-looking expectations formation. Estimates of the model are reported for manufacturing, using three alternative expectations mechanisms for determining expected sales: time series; published forecasts (derived from National Institute published forecasts); and rational expectations. The latter uses a submodel dependent on weakly exogenous variables. Single equation and whole model comparisons are made of the stocks equation estimated with forward expectations versus a traditional backward-looking model. These favor the forward-looking model. *Economica*, Nov. 1986, 53(212), pp. 447-65. National Institute of Economic and Social Research, London.

Portes, Richard, et al.—Macroeconomic Planning and Disequilibrium: Estimates for Poland, 1955-1980

The authors specify and estimate a four-equation disequilibrium model of the consumption goods market in a centrally planned economy. This work is based on previous papers of R. Portes and D. Winter (1977) and W. Charemza and R. Quandt (1982). The model contains a household demand equation, a planners' supply equation, a "min" condition and plan adjustment equation through which plan formation becomes endogenous. The paper uses a unique new data set of time series for plans for the major macroeconomic variables in Poland. The overall framework is applicable to any large organization which plans economic variables. Coauthors are Richard E. Quandt, David Winter, and Stephen Yeo. *Econometrica*, Jan. 1987, 55(1), pp. 19-41. Birkbeck College and CEPR, London.

Siebrand, Jan C. and Swank, Job—An Evaluation of the Morkmon Model

MORKMON, De Nederlandsche Bank's new quarterly model of the Dutch economy, fits in the last generation of macroeconomic models. Based on an integrated set of national and financial accounts, it combines demand, supply and financial conditions. Distinct features are

a detailed financial sector, and endogenous exchange-rate determination. The specification reflects the model builders inclination to give a great weight to empirical evidence. The model's forecasting performance is quite satisfactory, but not all simulations yield plausible results. In particular the interaction between the real and the financial sector could benefit from further research, for which MORKMON provides an excellent bridgehead. *De Economist*, 1986, 134(3), pp. 289-300. Erasmus University.

Wren-Lewis, Simon—Introducing Exchange-Rate Equations into a World Econometric Model

The National Institute of Economic and Social Research's world economic forecasts are for the first time produced with the aid of a large quarterly econometric model. The model is based on the World Economic Prospects (WEP) model which has been operated and developed by economists in HM Treasury for more than a decade. However, exchange rates in WEP are exogenous, and this article discusses the estimation of an exchange-rate system for the model and its implications in terms of overall model properties. *Nat. Inst. Econ. Rev.*, Feb. 1987, (119), pp. 57-69. National Institute of Economic and Social Research, London.

33 General Outlook and Stabilization Theories and Policies

Britton, Andrew J. C.; Eastwood, Fiona and Major, Robin L.—Macroeconomic Policy in Italy and Britain

This is the third and last in a series of articles comparing macroeconomic policy in the United Kingdom and in its largest European neighbors. The article begins by outlining in chronological order the successive stages of economic policy in Italy since the postwar period. This is followed by a section on the operation of fiscal and monetary policy. A brief account is then given of the structure of the Italian economy, concentrating on the labor market and trade, and the article ends with a discussion of the lessons one might draw from Italian experience. *Nat. Inst. Econ. Rev.*, Nov. 1986, (118), pp. 38-52. National Institute of Economic and Social Research, London.

Downe, Edward A.—Minsky's Model of Financial Fragility: A Suggested Addition

In Hyman Minsky's theoretical framework, capitalist economies exhibit financial instability. Keynesian policies stem a crisis by bolstering demand and improving balance sheets, but the cost is accelerating inflation. An inflation solution lies in restricting business power to mark up prices and/or workers demand for higher wages. Usually a political solution with an anti-labor bias is employed, i.e., disciplining workers through recessions which create job loss. The author's addition combines Minsky's model with Samuel Bowles's Marxist model to suggest a "new Phillips Curve" where "power" plays a key role: namely, inflation is reduced by increasing workers' perceived cost of job loss. *J. Post Keynesian Econ.*, Spring, 1987, 9(3), pp. 440-54. St. John's University.

Frenkel, Jacob A.—International Interdependence and the Constraints on Macroeconomic Policies

This paper analyzes the constraints that the openness of the economy imposes on the conduct of macroeconomic policy. The constraints are illustrated in the context of a variety of models highlighting the interactions among international capital mobility, the exchange-rate regime, and the severity of the constraints on the conduct and effectiveness of macroeconomic policy. The paper addresses the question of exchange-market intervention and the implications of the limited effectiveness of sterilized-intervention policies. The concluding section deals with policy implications concerning the roles of monetary and exchange-rate policies, protectionism, and reform of the international monetary system. *Weltwirtsch. Arch.*, 1986, 122(4), pp. 615-46. University of Chicago.

Hughes Hallett, A. J.—Autonomy and the Choice of Policy in Asymmetrically Dependent Economies: An Investigation of the Gains from International Policy Co-ordination

This paper examines whether decentralized control of the world economy effectively limits our ability to steer individual economies. It is well known that noncooperative policies are Pareto inefficient; but there is, as yet, no empir-

ical evidence on the costs of uncoordinated policies or the potential gains and risks in cooperation. In contrast to recent theoretical work in the area, this paper uses an estimated multi-country model in a dynamic game framework to estimate those costs and benefits. Policy design depends crucially on the asymmetries between economies. Successful coordination depends on anticipation and on timing the fiscal and monetary policy impacts correctly. *Oxford Econ. Pap.*, Nov. 1986, 38(3), pp. 516-44. University of Newcastle.

134 Inflation and Deflation

Burmeister, Edwin and Wall, Kent D.—Unobserved Rational Expectations and the German Hyperinflation with Endogenous Money Supply

A Kalman filtering technique is employed to test the convergent expectation hypothesis in the great German hyperinflation when the money supply is endogenously determined. After converting the model structure to a state space form, the parameters are estimated via minimization of a Gaussian likelihood function. The result is then used in a filter-smoother combination to yield smoothed estimates of the state variable associated with the arbitrary constant of the rational expectations solution. Both parametric and nonparametric tests lead us to reject the null hypothesis of convergent expectations. *Int. Econ. Rev.*, Feb. 1987, 28(1), pp. 15-32. University of Virginia, Charlottesville; Naval Postgraduate School, Monterey, California.

Christiano, Lawrence J.—Cagan's Model of Hyperinflation under Rational Expectations

This paper studies P. Cagan's model of the German hyperinflation under the hypothesis that adaptive expectations are rational. It shows that inference about the key money demand elasticity parameter, α , is very sensitive to the specification of the dynamic interaction of the unobserved money demand shock with prices and money. In particular, if T. J. Sargent's 1977 specification is modified, then his basic conclusions are overturned: identification of α does not require prior knowledge about the covariance of unobserved shock terms; and data on the German hyperinflation imply a sharp, not

loose estimate of α , which is of plausible magnitude. Finally, informal tests indicate that modifying Sargent's specification gives rise to improved model fit. *Int. Econ. Rev.*, Feb. 1987, 28(1), pp. 33-49. Federal Reserve Bank of Minneapolis.

Dunson, Bruce H. and Jackson, Peter—The Distributional Aspects of Inflation

This article examines the effect of inflation on the distribution of income. Although the results were inconclusive, it was found that inflation appeared to decrease the proportion of white families in the bottom of the income distribution. For blacks, however, there was no relationship between income inequality and price inflation. This article also examines the issue of whether the expenditures of some income groups were taxed more than others by inflation. The findings were that for whites inflation during the 1973-1979 period taxed the expenditures of the lower income groups more; for blacks, however, during this same period, inflation taxed the expenditures of all groups equally. *Quart. Rev. Econ. Bus.*, Winter 1986, 26(4), pp. 62-73. Prairie View A & M University, Texas; Atlanta University.

Henry, Samuel G. B. and Karakitsos, Elias—Inflation, Unemployment and Indirect Taxation

A cut in indirect tax reduces market prices, and lowers inflation temporarily while increasing real disposable income and employment. A small analytical macroeconomic model is developed to analyze the transmission of indirect tax changes incorporating two features of the National Institute econometric model: an inflation loss term in holding liquid assets, and real wage rigidity. Associated problems of internal and external financing of tax changes are further analyzed using multi-target and multi-instrument optimal control with the full econometric model. *Bull. Econ. Res.*, Jan. 1987, 39(1), pp. 29-47. National Institute of Economic and Social Research, London; Imperial College, London.

Stockton, David J. and Glassman, James E.—An Evaluation of the Forecast Performance of Alternative Models of Inflation

The forecast performances of three groups of models of the inflation process are evaluated in this paper: rational expectations models with instantaneous market clearing, monetarist models, and expectations-augmented Phillips curves. The dynamic simulations performed for the intervals between 1977 and 1984 are somewhat discouraging for all three theories. The variation in forecasting performance within model groups often exceeded the variation in performance across model groups. Nevertheless, the Phillips curve formulation rarely performed worse than the other two models, and in the 1981 to 1984 period it performed substantially better than the alternative models of inflation. *Rev. Econ. Statist.*, Feb. 1987, 69(1), pp. 108-17. Board of Governors of the Federal Reserve System.

200 Quantitative Economic Methods and Data

210 ECONOMETRIC, STATISTICAL, AND MATHEMATICAL METHODS AND MODELS

211 Econometric and Statistical Methods and Models

Cuddington, John T. and Winters, L. Alan—The Beveridge-Nelson Decomposition of Economic Time Series; A Quick Computational Method

This note describes a much simpler computational method for carrying out the Steven Beveridge and Charles Nelson (1981) decomposition of economic time series into permanent and cyclical components. *J. Monet. Econ.*, Jan. 1987, 19(1), pp. 125-27. The World Bank and Georgetown University; University of College of North Wales.

Engle, Robert F. and Granger, Clive W. J.—Co-integration and Error Correction: Representation, Estimation and Testing

The relationship between cointegration and error correction models, first suggested by Granger, is here extended and used to develop estimation procedures, tests, and empirical examples. A vector of time series is said to be cointegrated with cointegrating vector α if each element is stationary only after differencing while linear combinations $\alpha'x_t$ are themselves stationary. A representation theorem connects

the moving average, autoregressive, and error correction representations for cointegrated systems. A simple but asymptotically efficient two-step estimator is proposed and applied. Tests for cointegration are suggested and examined by Monte Carlo simulation. A series of examples are presented. *Econometrica*, Mar. 1987, 55(2), pp. 251-76. University of California, San Diego.

Gallant, A. Ronald and Nychka, Douglas W.—Semi-nonparametric Maximum Likelihood Estimation

Often maximum likelihood is the method of choice for fitting an econometric model to data but cannot be used because the correct specification of (multivariate) density that defines the likelihood is unknown. In this situation, simply put the density equal to a Hermite series and apply standard finite dimensional maximum likelihood methods. Model parameters and nearly all aspects of the unknown density itself will be estimated consistently provided that the length of the series increases with sample size. The rule for increasing series length can be data dependent. The method is applied to nonlinear regression with sample selection. *Econometrica*, Mar. 1987, 55(2), pp. 363-90. Institute of Statistics, North Carolina State University.

Godfrey, Leslie G.—Discriminating between Autocorrelation and Misspecification in Regression Analysis: An Alternative Test Strategy

A strategy for discriminating between autocorrelation and misspecification is proposed as an alternative to Jerry G. Thursby's (1981) procedure. An ordered sequence of hypotheses is formulated and tested using an autocorrelation robust check for misspecification and asymptotic tests of the form of the error autocorrelation model. A discussion of responses to the various outcomes of the tests is provided, along with comments on the implementation of the procedures. The strategy is only appropriate for regression equations with exogenous regressors, but suggestions are made for analyzing models with lagged dependent variables. *Rev. Econ. Statist.*, Feb. 1987, 69(1), pp. 128-34. University of York.

Manski, Charles F.—Semiparametric Analysis of Random Effects Linear Models from Binary Panel Data

Andersen (1970) considered the problem of inference on random effects linear models from binary response panel data, and showed that inference is possible if the disturbances for each panel member are known to be white noise with the logistic distribution. The present paper shows that inference remains possible if the disturbances are known only to be time-stationary. A conditional version of the maximum score estimator consistently estimates the parameters up to scale. *Econometrica*, Mar. 1987, 55(2), pp. 357–62. University of Wisconsin.

McCarthy, Michael D.—Exact Finite Sample Test Statistics for Restricted Reduced Forms: A Generalization of "Student's" Result

Test statistics and estimators for reduced-form coefficients involved in overidentifying exclusion restrictions are proposed. The test statistics, under the null hypothesis, do not depend on unknown parameters. One of the test statistics is exactly a Student "t" under the null hypothesis. A two equation (supply/demand) framework is used, but generalizations are suggested. *Intnl. Econ. Rev.*, Feb. 1987, 28(1), pp. 259–69. University of Pennsylvania and Temple University.

Phillips, P. C. B.—Time Series Regression with a Unit Root

This paper studies the random walk in a general time series setting that allows for weakly dependent and heterogeneously distributed innovations. It is shown that simple least squares regression consistently estimates a unit root under very general conditions in spite of the presence of autocorrelated errors. The limiting distribution of the standardized estimator and the associated regression *t* statistic are found using functional central limit theory. New tests of the random walk hypothesis are developed which permit a wide class of dependent and heterogeneous innovation sequences. A new limiting distribution theory is constructed based on the concept of continuous data recording. This theory, together with an asymptotic expansion that is developed in the paper for the unit root case,

explain many of the interesting experimental results recently reported in Evans and Savin (1981, 1984). *Econometrica*, Mar 1987, 55(2), pp. 277–301. Cowles Foundation for Research in Economics, Yale University.

Small, Kenneth A.—A Discrete Choice Model for Ordered Alternatives

A generalization of the multinomial logit (MNL) model is developed for cases where discrete alternatives are ordered, by allowing stochastic correlation among alternatives in close proximity. The model belongs to the Generalized Extreme Value class and is therefore consistent with random utility maximization. An extension can handle cases where observations have been selected from a truncated choice set. A two-stage procedure using MNL computer software provides a specification test for MNL against the proposed model. Two empirical applications are briefly described. *Econometrica*, Mar. 1987, 55(2), pp. 409–24. University of California, Irvine.

Thurman, Walter N.—Endogeneity Testing in a Supply and Demand Framework

The powers of Wu–Hausman endogeneity tests are related to the normalization decision in estimating demand equations. Power is not invariant to the choice between quantity and price as the dependent variable. A theoretical result due to Nakamura and Nakamura (1984) is used to explore the dependence of power on parameters of the supply and demand system. The theoretical result is corroborated with a Monte Carlo experiment. The power results are used to analyze the U.S. demand for poultry meat wherein price, but not quantity, is found to be predetermined. *Rev. Econ. Statist.*, Nov. 1986, 68(4), pp. 638–46. North Carolina State University.

212 Construction, Analysis, and Use of Econometric Models

Anderson, Richard G. and Thursby, Jerry G.—Confidence Intervals for Elasticity Estimators in Translog Models

This paper examines the distribution functions of elasticity estimators in translog demand models. The authors consider the normal and ratio-of-normals distributions and present confi-

dence intervals for the elasticity estimators. The results suggest that only elasticity estimators based on the means of the actual cost shares are likely to follow either the normal or ratio-of-normals distribution function. Examination of three published empirical studies demonstrates that inferences regarding the values of elasticities cannot be made from point estimates alone and suggests a trade-off between the level of aggregation and the width of confidence intervals for the elasticity estimators. *Rev. Econ. Statist.*, Nov. 1986, 68(4), pp. 647-56. The Ohio State University.

Björklund, Anders and Moffitt, Robert—The Estimation of Wage Gains and Welfare Gains in Self-Selection Models

The authors modify the basic self-selection model for the effects of education, training, unions, and other activities on wages, by including "heterogeneity of rewards" to the activity—i.e., differences across individuals in the rate of return to the activity. The authors show that such heterogeneity creates a new form of selection bias. They provide tests for its presence and draw out its implications for the wage and welfare gains to the activity. An empirical application provides strong support for such heterogeneity in one particular training program. *Rev. Econ. Statist.*, Feb. 1987, 69(1), pp. 42-49. Industrial Institute for Economic Social Research and the Institute for Social Research, Stockholm; Brown University.

Diewert, Walter E. and Wales, Terence J.—Flexible Functional Forms and Global Curvature Conditions

Two methods are developed for imposing curvature conditions globally in the estimation of cost functions. The first adopts a procedure due to Lau, for imposing the conditions locally, to a generalization of a functional form proposed by McFadden. With this functional form, imposing the appropriate conditions at one data point imposes the conditions globally. The second method adopts a technique used by Diewert, McFadden, and Barnett, which is based on the fact that a nonnegative sum of concave functions is concave. The suggested techniques are illustrated using the U.S. Manufacturing data utilized by E. R. Berndt and M. S. Khaled

(1979). *Econometrica*, Jan. 1987, 55(1), pp. 43-68. University of British Columbia.

Hensher, David A.—Sequential and Full Information Maximum Likelihood Estimation of a Nested Logit Model

Sequential estimation of a nested logit model is in general not an empirically desirable procedure, either as an alternative to full information maximum likelihood (FIML) estimation or as a source of parameter starting values for FIML estimation. Empirical studies which use varying choice sets across the sampled population create ambiguity in the link between sequential and simultaneously estimated nested logit models. FIML estimation is now a computationally feasible strategy as illustrated herein. *Rev. Econ. Statist.*, Nov. 1986, 68(4), pp. 657-67. Macquarie University.

Hughes Hallett, Andrew J.—Forecasting and Policy Evaluation in Economies with Rational Expectations: The Discrete Time Case

Several techniques have been proposed for solving dynamic rational expectations models. This paper examines a simple method for discrete time applications. That solution is then used to derive and compute optimal policy selections (incorporating "noncausal" effects) which are also time consistent when sequentially reoptimized. Those decisions are shown to contain an optimal open loop component plus an innovations dependent correction mechanism. A numerical example is used to verify those properties. *Bull. Econ. Res.*, Jan. 1987, 39(1), pp. 49-70. University of Newcastle.

de Koning, Jaap—The Expected Industrial Production Volume Estimated with the Help of Data from the Business-Cycle Test

Expectations play a crucial role in economics. The testing of hypotheses about the formation of expectations is hampered by the lack of data. In this article the author measures expectations in an independent way, using data from the Business Cycle Test. The data refer to the output of the Dutch manufacturing industry. The results indicate that both error-correcting and extrapolative mechanisms are relevant in the process of expectation formation. *De Economist*, 1986, 134(4), pp. 479-91. Netherlands Economic Institute, Rotterdam.

Marsden, James R. and Pingry, David E.—Engineering Production Functions and the Testing of Quantitative Economic Hypotheses

This note addresses two issues concerning the empirical role of engineering production functions: (1) the possibility of deriving typical economic production function forms from underlying engineering relationships, and (2) the appropriate role of engineering production formulations for testing quantitative economic hypotheses. It is argued that much of the importance of engineering production analysis lies in its ability to serve as a basis for nonempirical tests of quantitative economic hypotheses concerning measures such as marginal products and elasticities. *Economica*, Nov. 1986, 53(212), pp. 533–34. University of Arizona and University of Kentucky; University of Arizona.

Orazem, Peter and Miranowski, John—An Indirect Test for the Specification of Expectation Regimes

This paper develops an empirical strategy for testing competing hypotheses of expectation regimes when direct measures of expectations are unavailable. The procedure takes as given an assumed structural relationship between expected values of exogenous variables and a given decision variable. By imposing different expectation regimes on this model, the authors obtain an artificial nesting of the hypothesized regimes which allows us to test whether any specification dominates. This methodology is extended to multiple equation applications with any number of hypothesized expectation regimes. The tests are illustrated using a model of the response of county-level farm acreage allocation to expected commodity prices. *Rev. Econ. Statist.*, Nov. 1986, 68(4), pp. 603–09. Iowa State University; U.S. Department of Agriculture.

Pollak, Robert A. and Wales, Terence J.—Specification and Estimation of Nonseparable Two-Stage Technologies: The Leontief CES and the Cobb–Douglas CES

A two-stage technology is a sequential production process that first uses primary inputs

to produce intermediate inputs and then uses the intermediate inputs to produce final output. In this paper the authors show that two-stage technologies provide a general procedure for combining production functions or cost functions to obtain new specifications suitable for empirical production analysis. They investigate two new cost functions for which the input demand systems satisfy global regularity conditions in a wide range of nondegenerate cases. Using six data sets, the authors estimate these two input demand systems, both with and without imposing global regularity conditions, and find that one of them performs well. *J. Polit. Econ.*, Apr. 1987, 95(2), pp. 311–33. University of Pennsylvania and University of Washington; University of British Columbia.

Smith, V. Kerry—Another View of the State of Engineering Production Functions

This paper suggests that recent econometric analyses of pseudo data should be viewed as extending H. Chenery's framework for engineering production functions. *Economica*, Nov. 1986, 53(212), pp. 529–32. Vanderbilt University.

Veall, Michael R.—Bootstrapping the Probability Distribution of Peak Electricity Demand

For effective capacity planning, an electric utility requires an estimate of the probability distribution of future maximum demand, rather than simply a point prediction of expected peak. This paper proposes a method of obtaining this using the bootstrapping technique of B. Efron (1979) and this is applied to the peak demand of an actual utility, Ontario Hydro. While the technique is constructed from the standard procedure of forecasting a future variable using regression coefficients and known values for the right-hand side variables, it is modified to allow for uncertainty in these independent variable forecasts as well. *Int. Econ. Rev.*, Feb. 1987, 28(1), pp. 203–12. McMaster University.

215 Experimental Economic Methods

Alger, Dan—Laboratory Tests of Equilibrium Predictions with Disequilibrium Data

The author examines a common practice used within previous studies of laboratory markets,

testing equilibrium models using some data from markets that have not reached an equilibrium. The author examines the effect of this practice when it is applied to some laboratory markets where an appreciable number of them eventually satisfied an operational definition of an equilibrium. Data suggest that significantly different equilibrium test results would be obtained when using all data available in market periods analyzed in previous studies rather than using only equilibrium data. *Rev. Econ. Stud.*, Jan. 1987, 54(1), pp. 105-45. Federal Trade Commission.

Williams, Arlington W.—The Formation of Price Forecasts in Experimental Markets

This study utilizes laboratory experimental methods to evaluate the empirical validity of: (1) "Muthian" rational expectations assumptions, (2) an adaptive expectations model, and (3) an extrapolative expectations model. Over 500 price forecasts from 146 participants in twelve experimental double-auction markets with a cash reward structure are analyzed. The forecasting objective is the mean price over a sequence of trading periods governed by stationary market parameters. The price forecasts are found to be inconsistent with strict Muthian rational expectations and the extrapolative model is not supported by the data. However, the forecasts generally support the adaptive expectations model. *J. Money, Credit, Banking*, Feb. 1987, 19(1), pp. 1-18. Indiana University.

220 ECONOMIC AND SOCIAL STATISTICAL DATA AND ANALYSIS

221 National Income Accounting

Lease, Edward P. and Michael, Robert T.—Estimating the Personal Distribution of Income with Adjustment for Within-Family Variation

The 1970 and 1979 Current Population Surveys are used to compute the personal distribution of income. The major innovation in this paper is that all individuals in the household are not treated identically. In particular, children receive a different proportion of income than do adults. That proportion is estimated. Its variations with respect to household characteristics are discussed, and a final distribution of personal income is computed. That distribu-

tion has considerably fatter tails than does the one normally used. *J. Lab. Econ.*, Pt. 2, July 1986, 4(3), pp. S216-39. University of Chicago and National Opinion Research Centre.

Nolan, Brian—Unemployment and the Size Distribution of Income

The impact of changes in the level of unemployment on the U.K. size distribution of annual income is examined using cross-section data. Increased unemployment is shown to have a discernible regressive effect. However, reductions in shares were not highly concentrated at the very bottom of the distribution. Many individuals affected by unemployment during the year are in households/families, not at the bottom of the distribution, particularly because of the presence of other working members. *Economica*, Nov. 1986, 53(212), pp. 421-45. Central Bank of Ireland.

Schneider, Friedrich—Estimating the Size of the Danish Shadow Economy Using the Currency Demand Approach: An Attempt

The currency demand approach provides some insight into the size and development of the shadow economy in Denmark. Currency demand is statistically affected by tax rates. The difference in currency demand is calculated by comparing the actual tax burden over time to the lowest tax burden in the period 1952-82. The shadow economy grew steadily to 10 percent (of GNP) in 1977 and then fluctuated between 7 and 10 percent (of GNP) for the period 1978-82. The calculated size fits nicely with the results obtained using the same method for Norway, Sweden, and West Germany. *Scand. J. Econ.*, 1986, 88(4), pp. 643-68. University of Linz, Austria.

Shackett, Joyce R. and Slottje, D. J.—Labor Supply Decisions, Human Capital Attributes, and Inequality in the Size Distribution of Earnings in the U.S., 1952-81

This paper analyzes the impact of human capital, labor force variables, and macroeconomic growth measures on inequality in U.S. size distribution of earnings. Its technique utilizes a beta distribution of the second kind to approximate the distribution of earnings. It derives a measure of inequality that depends solely on

the parameters of the beta distribution and that links human capital, labor force, and macroeconomic variables to changes in the parameters of the beta distribution. The authors then relate the changing parameters of the beta distribution of changes in the degree of inequality in the marginal distribution of earnings. *J. Human Res.*, Winter 1987, 22(1), pp. 82-100. University of Texas, Arlington; Southern Methodist University.

Tice, Helen Stone and Moczar, Louis J.—Foreign Transactions in the National Income and Product Accounts: An Overview

This article presents the conceptual basis and framework of foreign transactions in the U.S. national income and product accounts (NIPA's), describes the presentation of the estimates, and summarizes the sources and methods used to prepare them (including the price indexes used to deflate exports and imports). This article includes a description of the conceptual and statistical relationship between the foreign transactions in the NIPA's and the balance of payment accounts. *Surv. Curr. Bus.*, Nov. 1986, 66(11), pp. 23-36. U.S. Department of Commerce, Bureau of Economic Analysis.

223 Financial Accounts

Barbera, Anthony J.—Inflation, Tax Rules and Investment: Some Additional Evidence

Martin Feldstein has provided evidence that the cost of capital and the rate of return on capital have a statistically significant effect on nonresidential fixed investment. Feldstein also showed that inflation was the primary cause for the decline in aggregate investment during the 1970s because of its effect on these price variables. In this paper, the author reexamines Feldstein's empirical evidence with his data by using a pair of specification tests to compare his equations with alternatives that do not contain any price variables. Both tests reject Feldstein's equations and fail to reject the alternatives. *J. Post Keynesian Econ.*, Spring 1987, 9(3), pp. 315-26. Data Resources, Washington, D.C.

224 National Wealth and Balance Sheets

Kokoski, Mary F.—Indices of Household Welfare and the Value of Leisure Time

Leisure-inclusive welfare indices, such as the real wage index, have been previously investigated only with aggregate data. Using micro data, however, these indices show the effects of increasing labor market employment of household members. Real wage, expenditure, and nonlabor income indices are compared across six types of husband/wife households. These indices are also compared to ad hoc real wage and leisure-exclusive index measures. Doubt is cast on past results based upon aggregate data. *Rev. Econ. Statist.*, Feb. 1987, 69(1), pp. 83-89. U.S. Bureau of Labor Statistics.

226 Productivity and Growth: Theory and Data
Baumol, William J.—Productivity Growth, Convergence, and Welfare: What the Long-run Data Show

Maddison's 1870-1979 data are analyzed, showing the historically unprecedented growth in productivity, GDP per capita and exports and the remarkable convergence of productivities of industrialized market economies, with convergence apparently shared by planned economies but not less developed countries. Productivity lag's relation to "deindustrialization," unemployment and balance of payments is examined. The data confirm that U.S. productivity growth fell behind its extraordinary postwar peak but probably not below its long term level. It is also shown that more rapid productivity growth of other countries may only be a normal concomitant of convergence. *Amer. Econ. Rev.*, Dec. 1986, 76(5), pp. 1072-85. Princeton University and New York University.

300 Domestic Monetary and Fiscal Theory and Institutions

310 DOMESTIC MONETARY AND FINANCIAL THEORY AND INSTITUTIONS

311 Domestic Monetary and Financial Theory and Policy

Andersen, T. M.—Pre-set Prices, Differential Information and Monetary Policy

This paper proves the case for an active stabilization policy by analyzing an economy exposed to nominal shocks, where prices are pre-set by firms possessing differential information. Price decisions are uncoordinated in that when each firm sets its price it is imperfectly informed

about prices set by other firms. The role of a systematic monetary policy, as a means to overcome the implications of differential information for the allocation of economic resources, is analyzed. Alternatively, a private indexation scheme is also analyzed and compared to monetary policy, which can eliminate completely the implications of differential information, whereas an indexation scheme can do so only partially. *Oxford Econ. Pap.*, Nov. 1986, 38(3), pp. 456-80. Aarhus University.

Barsky, Robert B.—The Fisher Hypothesis and the Forecastability and Persistence of Inflation

For the period 1860 to 1939, the simple correlation of the U.S. commercial paper rate with the contemporaneous inflation rate is -0.17 . The corresponding correlation for the period 1950 to 1979 is 0.71 . This paper attributes this apparent change in the Fisher relation to differences in the stochastic process of inflation, rather than a change in any structural relationship between interest rates and expected inflation. Contrary to recent claims in the literature, there is little evidence of inflation nonneutrality in data from the pre-World War I period. *J. Monet. Econ.*, Jan. 1987, 19(1), pp. 3-24. University of Michigan and National Bureau of Economic Research.

Bohara, Alok K.; Bradley, Michael G. and McNown, Robert F.—New Evidence on Targets for Monetary Policy

A multiple autoregressive moving average model is developed and employed in the analysis of the interrelations between policy, target, and goal variables. A time-series model that simultaneously examines the control problem and the target-goal relationship yields results different from those reported by researchers who examine these issues separately. The forecast error variances are decomposed to yield additional insights into the relationships among the variables. *Southern Econ. J.*, Jan. 1987, 53(3), pp. 591-604. University of Colorado.

Campbell, John Y.—Money Announcements, the Demand for Bank Reserves, and the Behavior of the Federal Funds Rate within the Statement Week

The effect of money stock announcements on the federal funds rate has been attributed informally to the information conveyed by the announcements about aggregate reserve demand. This "Aggregate Information Hypothesis" explains the effect without reference to Federal Reserve intervention in the funds market. In this paper, the author provides a formal model of the Aggregate Information Hypothesis under lagged reserve accounting. The model relies on imperfect information in the funds market and on imperfect bank arbitrage of reserve demand between days of the week. Some stylized facts are presented about funds rate behavior in the period 1960-83. *J. Money, Credit, Banking*, Feb. 1987, 19(1), pp. 56-67. Princeton University.

Canto, Victor A.; Nickelsburg, Gerald and Rizo, Paul—The Effect of Fiscal Policy on the Short-run Relation between Nominal Interest Rates and Inflation

This paper presents a simple empirical model of the relation between the inflation rate and the nominal interest rate. The authors show that previous results found in the literature may be attributed to specification error and that there are natural explanations for the observed signs of previous Fisher equation estimates. Fiscal policy shocks may generate short-run negative correlations between changes in inflation and changes in the nominal interest rates. These results illustrate the difficulty in discussing the relation between inflation and nominal interest rates without conditioning the analysis with specific assumptions on the course of the economy. *Econ. Inquiry*, Jan. 1987, 25(1), pp. 27-42. A. B. Laffer and Associates, Lomita, California; University of Southern California, Los Angeles; University of Southern California, Los Angeles.

Cothren, Richard—Asymmetric Information and Optimal Bank Reserves

One traditional argument in favor of bank reserve requirements holds that since a bank and its depositors are asymmetrically informed as to the bank's reserve position and its portfolio, the bank will hold too few reserves and too risky a portfolio. This being the case, presumably a central banking authority is equipped

to impose and to monitor a minimal reserve requirement yielding a Pareto superior outcome. This paper analyzes this position in the context of a formal model and shows that at least for some parameters of the model there is such a case for a minimal reserve requirement. *J. Money, Credit, Banking*, Feb. 1987, 19(1), pp. 68-77. Virginia Polytechnic Institute and State University.

Cover, James Peery and Keeler, James P.—Estimating Money Demand in Log-First-Difference Form

This paper demonstrates that the *M1* and real GNP time series for the United States follow nonstationary stochastic processes. Stationarity is achieved by first-differencing natural logs. As a result estimating money demand in log-first-difference form is theoretically preferable to log-level form. Comparisons of log-first-difference estimates with log-level estimates support this conclusion. Log-first-difference estimates yield a faster speed of adjustment and support the nominal form of the partial-adjustment mechanism and real GNP, rather than real consumption, as a scale variable. *Southern Econ. J.*, Jan. 1987, 53(3), pp. 751-67. University of Alabama; Kenyon College.

Cuthbertson, Keith and Taylor, Mark P.—The Demand for Money: A Dynamic Rational Expectations Model

This paper presents and estimates a model of the demand for money which explicitly incorporates forward-looking behavior. A multiperiod, rational expectations, quadratic costs of adjustment problem is solved using the discrete time calculus of variations to yield a money demand equation which is both forward-looking and contains a lagged dependent variable, and nests partial adjustment and error correction alternatives. The equation is estimated jointly with a vector autoregression for the forcing variables, subject to cross-equation restrictions in an attempt to circumvent the R. E. Lucas (1976) critique, on U.K. data for narrow money, *M1*. The results are encouraging. *Econ. J.*, Supp. 1987, 97, pp. 65-76. University of Newcastle; Bank of England and University of Newcastle.

Fethke, Gary and Policano, Andrew—Monetary Policy and the Timing of Wage Negotiations

In a model of long-term labor contracts, the simultaneous determination of the pattern of contract negotiation and the pattern of monetary-policy intervention yields a Nash equilibrium in which agents allow a discretionary role for policy. The resulting pattern of negotiation depends on the stochastic nature of the system. When all disturbances are aggregate in nature, a synchronized pattern of negotiation is optimal regardless of the frequency of monetary-policy intervention. When both aggregate and relative disturbances affect the system, a pattern of bunched negotiations can result with the authority intervening at dates away from the negotiation dates. *J. Monet. Econ.*, Jan. 1987, 19(1), pp. 89-105. University of Iowa.

Freeman, Scott—Reserve Requirements and Optimal Seigniorage

This note presents a model of optimizing agents who chose to hold deposits at financial intermediaries, which are required to hold fractional reserves of fiat money. When the stock of fiat money is expanded, the reserve requirement functions as a tax on deposits. The combination of reserve requirements and inflation results in a lower steady-state utility than a direct tax on deposits. The optimal monetary policy when reserves are required is to minimize reserve requirements and inflate without limit the stock of fiat money. *J. Monet. Econ.*, Mar. 1987, 19(2), pp. 307-14. Boston College.

Hamilton, James D.—Monetary Factors in the Great Depression

This paper examines the role of monetary policy in the early stages of the Great Depression and considers the mechanism whereby this policy may have affected real activity. The author concludes that the depression was preceded by a dramatic shift towards a highly contractionary monetary policy. The economic impact of this policy seems unlikely to have come through the conventional Keynesian channels of a shortage of liquidity and high *ex ante* real interest rates, but instead may have operated through unanticipated deflation and, after 1930, through the disruption of financial

intermediation as a consequence of the banking panics. *J. Monet. Econ.*, Mar. 1987, 19(2), pp. 145-69. University of Virginia.

Hein, Scott E.—Monetary Announcements and Interest Rate Responses

This paper offers reasons why, under lagged reserve accounting system, unexpected monetary base announcements may have weak, insignificant effects on interest rates, while at the same time, unexpected money supply announcements have significant interest rate effects. The paper also argues that under a non-borrowed reserve targeting system (October 1979 to roughly October 1982), unexpected announcements in Federal Reserve discount window borrowing were likely viewed as containing important information to financial community. Surprise discount window borrowing announcements had significant effect on interest rates, prior to abandonment of non-borrowed reserve targeting procedure in late 1982. Since then, neither borrowing nor money supply surprises significantly effect interest rates. *Southern Econ. J.*, Jan. 1987, 53(3), pp. 615-26. Texas Tech University.

Koenig, Evan F.—The Short-run "Tobin Effect" in a Monetary Optimizing Model

In an economy in which households face a cash-in-advance constraint, the nominal interest rate acts like a tax on consumption. To the extent that investment is financed from current earnings and so escapes the interest rate tax, households will defer their consumption when the nominal interest rate is high. A short-run Tobin effect results: capital accumulates most rapidly when the interest rate is thought to be high relative to its past and future values. *Econ. Inquiry*, Jan. 1987, 25(1), pp. 43-53. University of Washington.

Koskela, Erkki and Virén, Matti—Endogenous Policy, Structural Shift, and Demand for Money

The paper revisits the demand for money equation, originally suggested by Goldfeld, by using the U.S. quarterly data over the period 1955I-1978IV. Results from different estimation methods and specification tests indicate

that the Goldfeld equation suffers from misspecification. Some contrary claims notwithstanding, this seems to result neither from inappropriate dynamic specification nor from conventional estimation in terms of autocorrelation adjustment. Instead, the assumptions of exogenous interest rates and structural stability have to be rejected. Specifying an interest rate reaction function helps to improve the performance of the Goldfeld demand for money function. *Weltwirtschaft. Arch.*, 1986, 122(4), pp. 647-56. University of Helsinki; Bank of Finland, Helsinki.

Milbourne, Ross D.—Re-examining the Buffer-Stock Model of Money

This paper critically examines recent papers in the buffer stock or supply side disequilibrium models of money. The paper first investigates the assumptions at the microeconomic level and concludes that even with these assumptions, aggregate behavior does not necessarily follow buffer-stock models in which excess cash balances are held involuntarily. In a simple model with uncertain cash flows, it is shown that in the aggregate short-run involuntary cash holdings are negligible. If the buffer-stock story is applicable, it is to a broader definition of money than used in most empirical work. The second part of the paper examines empirical work and argues that the buffer-stock idea cannot be implemented using single equation techniques, and that when viewed appropriately, current empirical results refute the buffer-stock idea as it is currently modeled. *Econ. J.*, Supp. 1987, 97, pp. 130-42. Queen's University.

Reichenstein, William—The Impact of Money on Short-term Interest Rates

This study reviews empirical evidence from four research methods related to the impact of money on short-term nominal rates. The studies consistently fail to find evidence supporting the much hypothesized short-term, negative relationship between money and nominal rates since at least April 1975. Reasons for the absence of a negative relationship include the tendency of financial markets to anticipate corrective action by the Fed whenever M1 deviates from targeted growth ranges and a rapid adjustment of inflationary expectations to

changes in money growth. *Econ. Inquiry*, Jan. 1987, 25(1), pp. 67-82. North Texas State University.

Sims, Grant E.; Takayama, Akira and Chao, Chi-chur—A Dual Approach to Measuring the Nearness of Near-Monies

The authors address the problem of measuring the degree of substitution of near-monies, the problem provoked by V. Karuppan Chetty (1969) from which followed many studies. Applying the dual approach developed in production economics to this problem, the authors are able to estimate the degree of substitution among near-monies simultaneously for the n -dimensional world allowing possible complementarities, in which they also test the homotheticity assumption and the existence of "non-neutral" institutional changes. The approach, being a fresh one on this topic, enables the authors to obtain many new results and gives further insight into this much-debated problem. *Rev. Econ. Statist.*, Feb. 1987, 69(1), pp. 118-27. Transco Energy Co., Houston; Southern Illinois University, Carbondale; Southern Illinois University, Carbondale.

Spindt, Paul A. and Tarhan, Vefa—The Federal Reserve's New Operating Procedures: A Post Mortem

Although money stock targeting has been the strategic focus of Federal Reserve policy since the mid 1970s, operating policy—the tactics whereby the longer-run strategy is implemented over short-term intervals—has been changed by the Federal Reserve at least twice over this period. A particularly dramatic change in operating policy was announced by the Federal Reserve in October 1979. This paper provides empirical evidence that settles questions about the nature of this change and suggests that the new operating procedures may have contributed to the heightened interest rate volatility experienced over the 1979 to 1982 period. *J. Monet. Econ.*, Jan. 1987, 19(1), pp. 107-23. Board of Governors of the Federal Reserve System, Washington, D.C.; Loyola University.

Townsend, Robert M.—Asset-Return Anomalies in a Monetary Economy

This paper provides a general equilibrium, choice theoretic, spatial model, which explains the preference for holding barren money rather than interest-bearing securities or capital goods. Put somewhat differently, it examines standard asset pricing relationships in the context of a fully articulated monetary economy and delivers various asset return anomalies. In seeking to integrate the theory of value with the theory of money, a fairly general proof of the existence of a monetary equilibrium is provided. *J. Econ. Theory*, Apr. 1987, 41(2), pp. 219-47. University of Chicago.

Vickers, John—Signalling in a Model of Monetary Policy with Incomplete Information

The expectations of the public about future macroeconomic policy depend in part upon the preferences that they believe the policymaker to have. For example, when the policymaker is "dry"—i.e., more concerned about low inflation than low unemployment—lower inflation might be expected than when he is "wet." Thus, there is an incentive for the policymaker to influence expectations about his preferences by means of his current policy decisions. This paper uses R. Barro and D. Gordon's natural rate model and draws on recent work in oligopoly to investigate the use of monetary policy as a signal of the policymaker's preference. *Oxford Econ. Pap.*, Nov. 1986, 38(3), pp. 443-55. Nuffield College, Oxford.

312 Commercial Banking

Aliber, Robert Z.—Financial Innovation and the Boundries of Banking

This paper analyzes the interaction of the process of international innovation and the structure of the international banking sector. The advent of new instruments of financing resulted in the growth of disintermediation. This created pressure for the liberalization of banking with the resulting international competition. The banking sector in the United States is fragmented and offers a widely differing range of services. Innovation has resulted in a change in structure, a reshuffling of participants and a consolidation of financial centers. *Managerial Dec. Econ.*, Mar. 1987, 8(1), pp. 67-73. University of Chicago.

Broll, Udo and Gilroy, Michael B.—Collateral in Banking Policy and Adverse Selection

This paper analyzes collateral in banking policy and adverse selection effects given information asymmetry. It is shown that with asymmetric information, given the interest rate, one cannot expect collateral to equilibrate the market for loans. The reason is that the average riskiness of a loan will be positively related to the collateral agreement. Hence the gain for the bank from higher collateral will be compared with the adverse selection loss leading to an optimum collateral, which need not be market clearing. *Manchester Sch. Econ. Soc. Stud.*, Dec. 1986, 54(4), pp. 357-66. University of Constan, West Germany.

Hannan, Timothy H. and Rhoades, Stephen A.—Acquisition Targets and Motives: The Case of the Banking Industry

Findings do not indicate poorly-managed firms are more likely to be acquired than well-managed firms. The analysis uses a sample of 1,046 Texas banks that existed in 1970, out of which 201 were acquired during the period 1970-82. A multinomial logit procedure is used to estimate the relationship between the likelihood of acquisition and the characteristics of the target firm and its market. Additional results suggest that firms with large market shares, low capital/asset ratios, and operations in urban areas are relatively likely to be acquired but not firms with low profits or low growth. *Rev. Econ. Statist.*, Feb. 1987, 69(1), pp. 67-74. Federal Reserve Board.

Rose, Peter S.—The Impact of Financial Services Deregulation: The Hypotheses and the Evidence from 240 U.S. Metropolitan Markets

This study examines several deregulation hypotheses regarding changes in commercial bank profitability, risk, operating efficiency, portfolio mix, and market structure using individual bank and marketwide data from 240 U.S. metropolitan areas. The timing of deregulation laws are found to have a significant influence on bank and bank market performance indicators and economic, demographic, and market structure factors. Deregulation's impact, however, is found to be selective according to bank size

and market location. *Quart. J. Bus. Econ.*, Spring 1987, 26(2), pp. 55-88. Texas A&M University.

313 Capital Markets

Atchison, Michael D.; Butler, Kirt C. and Simmonds, Richard R.—Nonsynchronous Security Trading and Market Index Autocorrelation

This paper investigates the extent to which nonsynchronous security trading explains observed autocorrelations in daily returns on stock market indices. The theoretical portfolio autocorrelation due solely to nonsynchronous trading is estimated from a derived model. This estimated level is found to be substantially less than that observed empirically. The theoretical and empirical relationship between portfolio size and autocorrelation is also investigated. The results of this study suggest that other price-adjustment delay factors, in addition to nonsynchronous trading, cause the high autocorrelations present in daily returns on stock index portfolios. *J. Finance*, Mar. 1987, 42(1), pp. 111-18. University of Virginia; Michigan State University; Michigan State University.

Bruner, Robert F. and Simms, John M., Jr.—The International Debt Crisis and Bank Security Returns in 1982

This research investigates the reaction of bank security returns to the 20 August 1982 Mexican request for the rescheduling of its external debt. Empirical results show that the reaction of bank stocks was rapid and significantly negative. Within six days of the published announcement, prices had adjusted to reflect levels of individual bank exposure, which refutes the much longer time implied in other studies of this event. The authors conclude that the market reaction was essentially efficient, rational, and orderly. *J. Money, Credit, Banking*, Feb. 1987, 19(1), pp. 46-55. University of Virginia; The First Boston Corporation, New York.

Campbell, John Y. and Clarida, Richard H.—The Term Structure of Euromarket Interest Rates: An Empirical Investigation

This paper is an empirical investigation of the predictability and comovement of risk pre-

mia in the term structure of Euromarket interest rates. The authors present regression results which suggest that risk premia in three Euromarket term structures and on uncovered foreign asset positions move together. The authors test formally the hypothesis that these risk premia move in proportion to a single latent variable and are unable to reject this hypothesis. The single latent variable model can be interpreted as in L. Hansen and R. Hodrick (1983) and R. Hodrick and S. Srivastava (1984) as a specialization of the intertemporal capital asset pricing model in which assets have constant betas on a single, unobservable benchmark portfolio. *J. Monet. Econ.*, Jan. 1987, 19(1), pp. 25-44. Princeton University; Yale University.

Corhay, Albert; Hawawini, Gabriel and Michel, Pierre—Seasonality in the Risk-Return Relationship: Some International Evidence

The authors report evidence of monthly seasonality in the estimate of the CAPM-based equity risk premium on the NYSE and the London, Paris, and Brussels exchanges. In Belgium and France, the risk premium is positive in January and negative the rest of the year. In the United Kingdom, it is positive in April and negative the rest of the year. In the United States, the pattern of risk-premium seasonality coincides with the pattern of stock-return seasonality. Both are positive and significant only in January. This is not the case in the European markets. An interpretation of this phenomenon is suggested. *J. Finance*, Mar. 1987, 42(1), pp. 49-68. University of Liège, Belgium; INSEAD, Fontainebleau, France; University of Liège, Belgium.

Da Silva, Roberto and Dellva, Wilfred L.—Evidence of the Size Effect on Stock Returns in the Chemical Industry

This study examines the evidence of the size effect on stock returns in the chemical industry using both the CAPM and the market model. While the results are generally consistent with earlier random sample studies, the industry specific study provides some interesting twists. CAPM results indicate significant abnormal returns, while market model results are not statistically significant. *Quart. J. Bus. Econ.*, Spring

1987, 26(2), pp. 22-40. Monsanto Corporation, Sao Paulo, Brazil; St. Joseph's University.

Downen, Richard J. and Bauman, W. Scott—Residual Returns and Extramarket Risk

Several studies have found that stock with low price-earnings ratios with small capitalizations and neglected stocks have higher returns than can be justified by their beta or market risk. This study seeks to determine whether there is extramarket risk associated with such portfolios. Extramarket risk may account for excess returns. The results suggest that extramarket risk is not present. *Quart. J. Bus. Econ.*, Spring 1987, 26(2), pp. 41-54. Northern Illinois University.

Dukes, William P.; Bowlin, Oswald D. and MacDonald, S. Scott—The Performance of Beta in Forecasting Portfolio Returns in Bull and Bear Markets Using Alternate Market Proxies

This paper shows the risk-return relationships for stock portfolios during bull and bear markets using alternative market proxies. The findings support the concept of beta stationarity and suggest strongly that systematic risk is useful in predicting portfolio returns in bull and bear markets, especially when the Value Line composite is used as a market proxy. *Quart. J. Bus. Econ.*, Spring 1987, 26(2), pp. 89-103. Texas Tech University.

Engle, Robert F.; Lilien, David M. and Robins, Russell P.—Estimating Time Varying Risk Premia in the Term Structure: The ARCH-M Model

The expectation of the excess holding yield on a long bond is postulated to depend upon its conditional variance. Engle's ARCH model is extended to allow the conditional variance to be a determinant of the mean and is called ARCH-M. Estimation and inference procedures are proposed, and the model is applied to three interest rate data sets. In most cases the ARCH process and the time varying risk premium are highly significant. A collection of LM diagnostic tests reveals the robustness of the model to various specification changes such as alternative volatility or ARCH measures, regime changes, and interest rate formulations.

The model explains and interprets the recent econometric failures of the expectations hypothesis of the term structure. *Econometrica*, Mar. 1987, 55(2), pp. 391-407. University of California, San Diego; University of California, Irvine; TransWorld Oil, Ltd., Hamilton, Bermuda.

Fama, Eugene F. and French, Kenneth R.—Commodity Futures Prices: Some Evidence on Forecast Power, Premiums, and the Theory of Storage

The authors examine two models of commodity futures prices. The theory of storage explains the difference between contemporaneous futures and spot prices (the basis) in terms of interest changes, warehousing costs, and convenience yields. The authors find evidence of variation in the basis in response to both interest rates and seasonals in convenience yields. The second model splits a futures price into an expected premium and a forecast of the maturity spot price. The authors find evidence of forecast power for 10 of 21 commodities and time-varying expected premiums for five commodities. *J. Bus.*, Jan. 1987, 60(1), pp. 55-73. University of Chicago.

Garber, Peter M.—Nominal Contracts in a Bimetallic Standard

As its central feature, a bimetallic standard grants nominal debtors an option to deliver either of two metals. With results from the option pricing literature, construction of a formula to evaluate the bimetallic option in debt instruments is straightforward. With this formula, one can compute the option value in a wide range of nineteenth-century U.S. Treasury securities. Possession of the option values permits an adjustment of the yields on U.S. securities to make them comparable to yields on nonmetallic European securities. Evaluating the option allows the estimation of transfers from debtors to creditors. *Amer. Econ. Rev.*, Dec. 1986, 76(5), pp. 1012-30. Brown University.

Grinblatt, Mark and Titman, Sheridan—The Relation between Mean-Variance Efficiency and Arbitrage Pricing

This paper generalizes the relation between the mean-variance efficiency of a reference portfolio and exact linear pricing to a multibeta

setting. The concept of local mean-variance efficiency is introduced, and a group of reference portfolios is shown to price all assets if, and only if, they are locally efficient. Within this alternative framework, the paper examines the testability of the Arbitrage Pricing Theory. Whereas the Capital Asset Pricing Model implies that only the market portfolio is efficient and generally says nothing about which observable portfolios are efficient when examining subsets of the economy, the Arbitrage Pricing Theory pricing equation implies that the factor analysis portfolios are locally efficient. For this and several other reasons, the Arbitrage Pricing Theory is inherently more testable. *J. Bus.*, Jan. 1987, 60(1), pp. 97-112. University of California, Los Angeles.

Hartley, Peter—Portfolio Theory and Foreign Investment—The Role of Non-marketed Assets

Far from thinking the extent of foreign investment in Australia is large, economists ought perhaps be surprised that the extent is not greater. Portfolio diversification theory would seem to predict Australians would own a small share of their marketable wealth in Australian marketed assets. When domestic residents in a small open economy possess nonmarketable wealth (so that securities markets are not complete), domestic marketed assets may be disproportionately demanded by residents to hedge their nonmarketed risks. *Econ. Rec.*, Sept. 1986, 62(178), pp. 286-95. Monash University and Princeton University.

Hirst, Ian—Restrictions on Outward Portfolio Investment and Domestic Equity Markets

Governments sometimes impose restrictions on local investors which effectively prevent them from purchasing overseas equities. Reasons for doing this, from the government's point of view, would include increasing the availability and lowering the cost of risk capital for local companies. This paper analyzes this argument in terms of modern portfolio theory. It is shown that, under certain circumstances, domestic equities and overseas equities may be complements rather than substitutes. In this case, the effect of the restrictions would be to lower prices on the domestic stock exchange and to

raise the cost of risk capital to local companies. *Managerial Dec. Econ.*, Mar. 1987, 8(1), pp. 75-80. University of Edinburgh.

Hochman, Shalom and Palmon, Oded—Expected Inflation and the Real Rates of Interest on Taxable and Tax-Exempt Bonds

This paper analyzes the impact of inflation on rates of return on taxable corporate bonds and tax-exempt municipal bonds. The paper considers a differential tax system, where the tax rate depends on both the identity of the investor and the source of income. It also considers the possibility that inflation may induce investors to switch from holding one asset to holding another. It is demonstrated that while inflation should increase the (pre-personal tax) real rate of interest on taxable bonds, it should reduce the real rate of interest on tax-exempt bonds. *J. Money, Credit, Banking*, Feb. 1987, 19(1), pp. 90-103. University of Houston.

Huberman, Gur; Kandel, Shmuel and Stambaugh, Robert F.—Mimicking Portfolios and Exact Arbitrage Pricing

The authors characterize the sets of mimicking positions whose returns can serve in place of factors in an exact K -factor arbitrage pricing relation for a set of N assets. All of the sets are K -dimensional nonsingular linear transformations of each other. The authors interpret three examples of such transformations and discuss empirical considerations. They also provide conditions under which the mimicking positions can be expressed as portfolios and characterize the relation between mimicking portfolios and the minimum-variance frontier. *J. Finance*, Mar. 1987, 42(1), pp. 1-9. University of Chicago.

James, Christopher M. and Wier, Peggy—Returns to Acquirers and Competition in the Acquisition Market: The Case of Banking

In this paper the authors examine the effect of competition in the market for bank acquisitions on the acquirers' stock returns. Bank acquisitions are examined because federal and state regulations greatly facilitate the identification of potential bidders and alternative targets in an acquisition. They find that the gain to an acquisition is positively related to the number

of alternative target firms available and negatively related to the number of other potential bidders. These results provide some insights into the sources of gains from bank acquisitions. *J. Polit. Econ.*, Apr. 1987, 95(2), pp. 355-70. University of Oregon.

Jüttner, D. Johannes; Tuckwell, Roger H. and Luedecke, Bernd P.—Are Expectations of Short-term Interest Rates Rational?

The paper investigates whether expectations of short-term interest rates, as measured by either the futures rate for bank bills or the implied forward rate in the spot market for such bills, are formed rationally in the Muthian sense. A feature of the approach is the explicit integration of overseas interest rate expectations. The results indicate that market participants draw on a more comprehensive information set when setting implied forward rates than when pricing futures contracts and that, as a result, there does appear to be scope for profitable arbitrage between the two markets. *Australian Econ. Pap.*, Dec. 1985, 24(45), pp. 356-69. Macquarie University; Macquarie University; University of New South Wales.

Kidwell, David S. and Marr, M. Wayne—Preferred Stock: The Impact of Credit Market Conditions on Competitive versus Negotiated Sale

The study examines the issue-cost relationship between competitive and negotiated sales for a sample of public utility preferred stock sold between 1974 and 1980. The study's major findings are that during stable credit markets, most preferred stock issuers will achieve the lowest issue cost using competitive sales. During unstable market periods, the results are quite different. Negotiated sales will provide the lowest issue cost if two or fewer competitive bids are expected; if three or more bids are expected, no cost difference exists between the two methods of sale. Thus, under unstable market conditions negotiated sales may be preferable. *Quart. Rev. Econ. Bus.*, Winter 1986, 26(4), pp. 35-50. Tulane University.

McConnell, John J. and Sanger, Gary C.—The Puzzle in Post-listing Common Stock Returns

Prior studies indicate that common stocks tend to earn negative returns immediately following listing on the NYSE. The authors document the phenomenon in detail and investigate a number of possible explanations. No full explanation is discovered although several are ruled out. *J. Finance*, Mar. 1987, 42(1), pp. 119-40. Purdue University; Louisiana State University.

Ogden, Joseph P.—An Analysis Of Yield Curve Notes

This paper analyzes a new security, the yield curve note, which pays interest at a rate that varies inversely with short-term interest rates. A valuation model is presented, the parameters of the model are estimated empirically, and the estimated model is used to explore the price behavior and risk characteristics of yield curve notes in comparison with fixed rate notes. The risk of a yield curve note is approximately twice as great as a fixed rate note with the same maturity. The unique risk characteristics of yield curve notes make them useful in immunization strategies for financial institutions. *J. Finance*, Mar. 1987, 42(1), pp. 99-110. University of Tennessee.

Oldfield, George S. and Rogalski, Richard J.—The Stochastic Properties of Term Structure Movements

The aim of this paper is to identify a stationary statistical model for Treasury bill discount changes. The authors find that the sample variance of discount changes are nonstationary over short differencing intervals but stabilize as the intervals increase to quarterly or semiannual periods. This result has important implications for pricing options and for analyzing the predictive properties of forward rates. The authors show that the stochastic process structure leads to a downward revision in estimates of forward rate predictive power. *J. Monet. Econ.*, Mar. 1987, 19(2), pp. 229-54. Cornell University; Dartmouth College.

330 FISCAL THEORY AND POLICY; PUBLIC FINANCE

331 Fiscal Theory and Policy

Browning, Edgar K.—On the Marginal Welfare Cost of Taxation

This paper develops a rigorous partial equilibrium analysis of the determinants of marginal welfare cost (MWC) of taxes on labor earnings. It shows that four key parameters interact to determine the magnitude of MWC. Using aggregate data and plausible ranges of values for the parameters, MWC can vary from under 10 percent to more than 300 percent of marginal tax revenue. Intermediate parameter values suggest MWC is in the 25-50 percent range. However, the more extreme estimates cannot be ruled out on the basis of available evidence, suggesting that MWC cannot yet be estimated with much precision. *Amer. Econ. Rev.*, Mar. 1987, 77(1), pp. 11-23. Texas A&M University.

Cauley, Jon; Sandler, Todd and Cornes, Richard—Nonmarket Institutional Structures: Conjectures, Distribution, and Allocative Efficiency

This paper analyzes nonmarket institutional structure in which policy makers from two or more governments negotiate to commonly provide a pure public good or to internalize an externality. Various equilibrium notions for the linkage are examined, including Nash, non-Nash, and Pareto. The theoretical analysis indicates when distributional aspects can be separated from efficiency considerations for a non-market linkage. In addition, the authors demonstrate that the likelihood of initial formation of such a linkage is related to the number of participants, the type of conjecture formed, and the mix between fixed and variable negotiation costs. *Public Finance*, 1986, 41(2), pp. 153-72. University of Hawaii, Hilo; Iowa State University; Australian National University.

Chamley, Christophe and Wright, Brian D.—Fiscal Incidence in an Overlapping Generations Model with a Fixed Asset

In a model of overlapping generations with a fixed factor ("land"), malleable capital, and labor, the authors analyze the dynamic effects of various fiscal policies on capital accumulation, land prices, and intergenerational welfare. Minimal assumptions (stability and uniqueness of the dynamic path) imply that a land tax may initially raise land values, but the upper bound is less than one-half of the tax revenues. Assuming homothetic utility, the ratio between the

long-run capital responses to a land tax and to a lump-sum transfer of equivalent revenue from the young to the old depends solely on the labor share. *J. Public Econ.*, Feb. 1987, 32(1), pp. 3-24. Hoover Institution, Stanford University; University of California, Berkeley.

Ekelund, Robert B., Jr. and Thornton, Mark—Schumpeterian Analysis, Supply-Side Economics, and Macroeconomic Policy in the 1920s

Supply-side policies, and specifically tax cuts, were a major causal factor in the prosperity of the 1920s. Simple empirical tests are used to support this position. An opposing view—that prosperity and tax cuts resulted from general Schumpeterian expansion—is refuted with Schumpeter's own view that tax policy is a major determinant of economic activity and growth in economic aggregates. Further, the authors analyze the contemporary interest in supply-side economics and discuss the important insights that supply-side concepts have for economic stability and growth. *Rev. Soc. Econ.*, Dec. 1986, 44(3), pp. 221-37. Auburn University.

Gordon, Roger, H.—Taxation of Investment and Savings in a World Economy

The equilibrium of capital and equilibrium market prices are derived for a world economy with a unified securities market, mobile capital, no uncertainty, and varying tax rates on different sources of income in each country. The paper then characterizes optimal tax rates for a small country in this setting, focusing on the peculiar incentives created when the before-tax rate of return differs among securities due to differences in their typical tax treatment. *Amer. Econ. Rev.*, Dec. 1986, 76(5), pp. 1086-102. University of Michigan.

Koford, Kenneth—Innovation and Adaptation under Incentive Anti-inflation Plans

This paper examines the effects of incentive anti-inflation plans upon a firm's incentives to innovate and to adapt to shocks. Such plans create a uniform tax upon price increases and subsidy for price decreases. The incentive to innovate depend upon the

ally reduces firms' incentives to develop demand-increasing innovations and speed of adjustment to demand and input price shocks. Another rule reduces the profits from highly successful innovations, but increases the profits from less successful innovations, with uncertain overall effect on the incentive to innovate. *Public Finance*, 1986, 41(2), pp. 218-31. University of Delaware.

Kofuji, Yasuo—Wealth Effects and Fiscal Policy in the Context of a Flexible Price Level

In reexamining an earlier model by Fiorella Padoa Schippa, it is found that under a flexible price level and with wealth effects, (1) bond financing of public expenditure leads to instability, whereas money finance is always stable; (2) crowding-out of private by public expenditure is logically compatible with stability under bond but not under money finance; (3) if the system is stable, bond financing may create a larger or smaller real income compared with money finance, however, the wealth effects stemming from price level changes play an important role in the determination of these effects. *Public Finance*, 1986, 41(2), pp. 232-43. Senshu University, Japan.

Latham, Roger W. and Naisbitt, Barry—Balanced Budget Tax Incidence

This paper extends the analysis of the Harberger two-sector tax incidence model to examine different assumptions about government and individual demand behavior. In particular, differences in preferences among individuals and the concepts of the distributions of personal income and the ownership of capital are introduced into the model. Incidence propositions are derived assuming firstly, following Harberger, that the government spends tax revenues as a typical individual would spend income and secondly that tax revenue is used to finance lump-sum transfers to individuals. The propositions are shown to accord with those existing in the literature. *Public Finance*, 1986, 41(2), pp. 244-59. York University; University of Liverpool.

Lee, Kye Sik—Pareto Optimal Redistribution: A Public Good Approach

A general equilibrium model with the Lin-

ome scheme which highlights the public nature of income distribution is presented. The introduction of the CES utility function, the Atkinson index of equality, and condensed S. income data. The Pareto optimal tax structure is shown to be more progressive all in all, the stronger the degree of inequality aversion and the weaker the degree of substitutability between public and private goods. Most markedly, the optimal tax structure is identified as lump-sum/regressive with increasing progressivity/proportionality/degressivity, depending on alternative degrees of substitutability. *Public Finance*, 1986, 41(2), pp. 200-17. Korea Development Institute, Seoul.

Mankiw, N. Gregory—Government Purchases and Real Interest Rates

This paper examines the dynamic impact of government purchases in a simple general equilibrium model with both durable and nondurable consumer goods as well as productive capital. The model generates perhaps surprising results. In particular, increases in government purchases are shown to cause reductions in real interest rates. The model thus provides a possible explanation for the observed behavior of real interest rates around wars. *J. Polit. Econ.*, Apr. 1987, 95(2), pp. 407-19. Harvard University.

McCain, Roger A.—Costs of Transaction and a Theory of Public Policy

The paper begins by reconciling two views of public policy in the light of transaction costs, which draw opposite conclusions. The contrary views are those of the Coasian school and of Burnham Beckwith. On the basis of the synthesis which results, the paper proposes a maxim for efficient government policy, and shows how such classical cases as public goods, Keynesian economic stabilization, and redistribution of income come within the scope of the maxim. *Rev. Soc. Econ.*, Dec. 1986, 44(3), pp. 238-50. Fordham University and Brooklyn College.

Okuno, Nobuhiro—Public Investment and Unequalitarian Equilibrium

Effects of public investment on income-wealth distribution is analyzed using a neoclassical growth model with income-wealth in-

equalities. The author considers income groups which differ in their wealth holdings but have the same strictly convex savings function. A neoclassical growth model with these features has a locally stable unequalitarian equilibrium. The author makes some comparative analyses of unequalitarian steady paths with respect to public investment. It is shown that public investment is likely to expand income-wealth inequality even though it raises per capital national income. *Public Finance*, 1986, 41(2), pp. 260-66. Nagoya University, Japan.

van der Ploeg, F.—The Effects of a Tax and Incomes Policy on Government Finance, Employment and Capital Formation

A tax and incomes policy is proposed to alleviate the problem of unemployment. Income taxes and wages are simultaneously reduced to leave the post-tax real wage unaffected. This will stimulate employment, but may lead to a never-ending expansion of government debt unless there is a shift from bond-finance to money-finance. The main disadvantage of this scheme is that money-finance is more inflationary, but this may not matter as the net real wage is unchanged. However, when allowance is made for the role of capital formation, the inflationary consequences of money-finance will stimulate investment and contribute to a further expansion of activity and employment. The effects of two other reflationary packages are also investigated. *De Economist*, 1986, 134(3), pp. 269-88. London School of Economics and Tilburg University.

Rankin, Neal—Debt Policy under Fixed and Flexible Prices

The effects of an increase in the stock of government bonds are considered in an economy with overlapping generations and perfect foresight, and in the absence of intergenerational bequests. The cases where prices adjust instantaneously to clear markets and where prices are exogenously fixed, are contrasted (1) in a model with capital accumulation but an exogenous labor supply and (2) in a model with exogenous capital but endogenous labor supply. James Tobin's intuitive argument that, in the absence of bequests, higher debt reduces long-run welfare if prices are flexible, but increases

long-run capital responses to a land tax and to a lump-sum transfer of equivalent revenue from the young to the old depends solely on the labor share. *J. Public Econ.*, Feb. 1987, 32(1), pp. 3-24. Hoover Institution, Stanford University; University of California, Berkeley.

Ekelund, Robert B., Jr. and Thornton, Mark—Schumpeterian Analysis, Supply-Side Economics, and Macroeconomic Policy in the 1920s

Supply-side policies, and specifically tax cuts, were a major causal factor in the prosperity of the 1920s. Simple empirical tests are used to support this position. An opposing view—that prosperity and tax cuts resulted from general Schumpeterian expansion—is refuted with Schumpeter's own view that tax policy is a major determinant of economic activity and growth in economic aggregates. Further, the authors analyze the contemporary interest in supply-side economics and discuss the important insights that supply-side concepts have for economic stability and growth. *Rev. Soc. Econ.*, Dec. 1986, 44(3), pp. 221-37. Auburn University.

Gordon, Roger, H.—Taxation of Investment and Savings in a World Economy

The equilibrium of capital and equilibrium market prices are derived for a world economy with a unified securities market, mobile capital, no uncertainty, and varying tax rates on different sources of income in each country. The paper then characterizes optimal tax rates for a small country in this setting, focusing on the peculiar incentives created when the before-tax rate of return differs among securities due to differences in their typical tax treatment. *Amer. Econ. Rev.*, Dec. 1986, 76(5), pp. 1086-102. University of Michigan.

Koford, Kenneth—Innovation and Adaptation under Incentive Anti-inflation Plans

This paper examines the effects of incentive anti-inflation plans upon a firm's incentives to innovate and to adapt to shocks. Such plans create a uniform tax upon price increases and subsidy for price decreases. The incentive plans' effects upon innovation depend upon the rule. One rule increases firms' incentives to develop cost-reducing innovations, but gener-

ally reduces firms' incentives to develop demand-increasing innovations and speed of adjustment to demand and input price shocks. Another rule reduces the profits from highly successful innovations, but increases the profits from less successful innovations, with uncertain overall effect on the incentive to innovate. *Public Finance*, 1986, 41(2), pp. 218-31. University of Delaware.

Kofuji, Yasuo—Wealth Effects and Fiscal Policy in the Context of a Flexible Price Level

In reexamining an earlier model by Fiorella Padoa Schippa, it is found that under a flexible price level and with wealth effects, (1) bond financing of public expenditure leads to instability, whereas money finance is always stable; (2) crowding-out of private by public expenditure is logically compatible with stability under bond but not under money finance; (3) if the system is stable, bond financing may create a larger or smaller real income compared with money finance, however, the wealth effects stemming from price level changes play an important role in the determination of these effects. *Public Finance*, 1986, 41(2), pp. 232-43. Senshu University, Japan.

Latham, Roger W. and Naibitt, Barry—Balanced Budget Tax Incidence

This paper extends the analysis of the Harberger two-sector tax incidence model to examine different assumptions about government and individual demand behavior. In particular, differences in preferences among individuals and the concepts of the distributions of personal income and the ownership of capital are introduced into the model. Incidence propositions are derived assuming firstly, following Harberger, that the government spends tax revenues as a typical individual would spend income and secondly that tax revenue is used to finance lump-sum transfers to individuals. The propositions are shown to accord with those existing in the literature. *Public Finance*, 1986, 41(2), pp. 244-59. York University; University of Liverpool.

Lee, Kye Sik—Pareto Optimal Redistribution: A Public Good Approach

A general equilibrium model with the Lindahl mechanism and the minimum guaranteed

income scheme which highlights the public-good nature of income distribution is presented via introduction of the CES utility function, the Atkinson index of equality, and condensed U.S. income data. The Pareto optimal tax structure is shown to be more progressive all in all, the stronger the degree of inequality aversion and the weaker the degree of substitutability between public and private goods. Most markedly, the optimal tax structure is identified as lump-sum/regressive with increasing progressivity/proportionality/degressivity, depending on alternative degrees of substitutability. *Public Finance*, 1986, 41(2), pp. 200-17. Korea Development Institute, Seoul.

Mankiw, N. Gregory—Government Purchases and Real Interest Rates

This paper examines the dynamic impact of government purchases in a simple general equilibrium model with both durable and nondurable consumer goods as well as productive capital. The model generates perhaps surprising results. In particular, increases in government purchases are shown to cause reductions in real interest rates. The model thus provides a possible explanation for the observed behavior of real interest rates around wars. *J. Polit. Econ.*, Apr. 1987, 95(2), pp. 407-19. Harvard University.

McCain, Roger A.—Costs of Transaction and a Theory of Public Policy

The paper begins by reconciling two views of public policy in the light of transaction costs, which draw opposite conclusions. The contrary views are those of the Coasian school and of Burnham Beckwith. On the basis of the synthesis which results, the paper proposes a maxim for efficient government policy, and shows how such classical cases as public goods, Keynesian economic stabilization, and redistribution of income come within the scope of the maxim. *Rev. Soc. Econ.*, Dec. 1986, 44(3), pp. 238-50. Fordham University and Brooklyn College.

Okuno, Nobuhiro—Public Investment and Unequalitarian Equilibrium

Effects of public investment on income-wealth distribution is analyzed using a neoclassical growth model with income-wealth in-

equalities. The author considers income groups which differ in their wealth holdings but have the same strictly convex savings function. A neoclassical growth model with these features has a locally stable unequalitarian equilibrium. The author makes some comparative analyses of unequalitarian steady paths with respect to public investment. It is shown that public investment is likely to expand income-wealth inequality even though it raises per capital national income. *Public Finance*, 1986, 41(2), pp. 260-66. Nagoya University, Japan.

van der Ploeg, F.—The Effects of a Tax and Incomes Policy on Government Finance, Employment and Capital Formation

A tax and incomes policy is proposed to alleviate the problem of unemployment. Income taxes and wages are simultaneously reduced to leave the post-tax real wage unaffected. This will stimulate employment, but may lead to a never-ending expansion of government debt unless there is a shift from bond-finance to money-finance. The main disadvantage of this scheme is that money-finance is more inflationary, but this may not matter as the net real wage is unchanged. However, when allowance is made for the role of capital formation, the inflationary consequences of money-finance will stimulate investment and contribute to a further expansion of activity and employment. The effects of two other reflationary packages are also investigated. *De Economist*, 1986, 134(3), pp. 269-88. London School of Economics and Tilburg University.

Rankin, Neal—Debt Policy under Fixed and Flexible Prices

The effects of an increase in the stock of government bonds are considered in an economy with overlapping generations and perfect foresight, and in the absence of intergenerational bequests. The cases where prices adjust instantaneously to clear markets and where prices are exogenously fixed, are contrasted (1) in a model with capital accumulation but an exogenous labor supply and (2) in a model with exogenous capital but endogenous labor supply. James Tobin's intuitive argument that, in the absence of bequests, higher debt reduces long-run welfare if prices are flexible, but increases

it if fixed, so producing Keynesian unemployment, is correct for (1) but incorrect for (2) at high levels of employment. *Oxford Econ. Pap.*, Nov. 1986, 38(3), pp. 481-500. Queen Mary College and University of London.

Rankin, Neal—Disequilibrium and the Welfare-Maximising Levels of Government Spending, Taxation and Debt

A "disequilibrium" framework, which extends that of R. J. Barro and H. I. Grossman (1971) and E. Malinvaud (1977) to include overlapping generations and dynamics due to perfect foresight and the accumulation of bonds and capital, is used to determine when a welfare-maximizing fiscal policy requires a higher level of government spending than in Walrasian equilibrium. When deficits are permitted, optimum spending either equals the Walrasian optimum, or differs in a way depending arbitrarily on preferences. When a balanced budget is imposed, two situations which may justify spending clearly above the Walrasian optimum are: (1) when capital accumulation is included; (2) when spending provides utility to consumers. *Econ. J.*, Mar. 1987, 97(385), pp. 65-85. Queen Mary College, University of London.

Rapanos, Vassilis—Variable Returns to Scale and Tax Incidence: An Extension of Harberger's Model

This paper investigates the incidence of the corporation income tax under variable returns to scale. The approach followed is the one suggested by A. Harberger (1962). If the elasticity of substitution between commodities in consumption is different from one, then the influence of variable returns to scale on tax incidence is very important. Although, as in Harberger, tax incidence depends crucially on factor intensities, the quantitative aspects are quite different and this is due to the presence of variable returns to scale. There are also certain conditions under which the presence of variable returns to scale does not affect Harberger's results. *J. Econ. (Z. Nationalökon.)*, 1986, 46(4), pp. 397-406. Permanent Greek Delegation to OECD, Paris.

Rovesz, John T.—On some Advantages of Progressive Indirect Taxation

The main purpose of this paper is to disprove a proposition currently prevailing in the literature, that given weakly separable utility between commodities and leisure, there is no need to impose taxes on commodities, provided the income tax function is optimal. Following presentation of a counterexample, the author examines some benefits involved in including indirect taxation in relation to work incentives and the higher degree of progression attainable with an optimal mixed regime. *Public Finance*, 1986, 41(2), pp. 182-99. Department of Industry, Technology, and Commerce, Canberra, Australia.

Roberts, Russell D.—Financing Public Goods

Public goods can be financed by direct taxation or a subsidy to private spending. This paper examines the relative efficiency and distributional consequences of the two methods. Efficiency is shown to depend on the price elasticity of private spending and the trade-off between public and private spending. When this trade-off is dollar for dollar, however, a subsidy is always more efficient than direct taxation. The gains from a subsidy are larger for a mixed good than for a pure public good. Looking at distributional effects, the author shows when richer taxpayers may prefer a tax credit to deductibility, even though they face lower prices with deductibility, and also shows when richer taxpayers prefer direct taxation to either type of subsidy. *J. Polit. Econ.*, Apr. 1987, 95(2), pp. 420-37. University of Rochester and Hoover Institution.

Ross, Stephen A.—Arbitrage and Martingales with Taxation

This paper extends the martingale analysis of no arbitrage pricing to worlds with taxation. The absence of arbitrage is shown to imply the existence of different shadow prices for income streams that are subject to differing tax treatments. For example, no arbitrage implies the existence of different martingale measures for capital gains and for ordinary income when they are differentially taxed, and for items such as depreciation expenses that influence only after-tax cash flows. The analysis is applied to several topics in finance including the debt/equity decision, tax options, and the taxation of dividends

and pensions. *J. Polit. Econ.*, Apr. 1987, 95(2), pp. 371-83. Yale University.

Svensson, Lars-Gunnar—National Income and Marginal Taxes

A simple model of linear taxation is used to single out different types of tax equilibria. Sufficient conditions for national income to be a decreasing function of the marginal tax rate are given for each case. Equilibria are classified according to whether (1) aggregate labor supply is forward bending, (2) aggregate labor supply is backward bending, (3) the equilibrium is a welfare maximum, and (4) the equilibrium is a "political equilibrium." *Scand. J. Econ.*, 1986, 88(4), pp. 565-81. University of Lund.

Wibaut, Serge R.—A Model of Tax Reform for Belgium

This paper proposes a solution to the problems of second-best and tax reform for economies characterized by so-called Keynesian unemployment, i.e., excess supply of both labor and goods. Results of an econometric model suggest that welfare improving tax directions may have been found in Belgium in 1982. *J. Public Econ.*, Feb. 1987, 32(1), pp. 53-77. CORE, Catholic University of Louvain, Belgium.

322 National Government Expenditures and Budgeting

Eisner, Robert—The Real Federal Deficit: What It Is, How It Matters, and What It Should Be

Budget deficits do matter, but to know how, we must measure them right. Real high-employment budget deficits, adjusted for inflation effects on outstanding debt, are positively associated with subsequent increases in real GNP and reductions in unemployment. Apparent deficits in the 1970s were really surpluses. Tight fiscal as well as tight monetary policy thus contributed to the deep recession of 1981-1982. The huge swing to real deficit in 1982 was a major factor in the recovery. Balanced official budgets, as demanded by Gramm-Rudman, would entail real surpluses likely to stifle economic growth and increase unemployment. *Quart. Rev. Econ. Bus.*, Winter 1986, 26(4), pp. 6-21. Northwestern University.

323 National Taxation, Revenue, and Subsidies

Fullerton, Don—The Indexation of Interest, Depreciation, and Capital Gains and Tax Reform in the United States

The Treasury's 1984 plan is a more comprehensive income tax, including the indexation of interest, depreciation, and capital gains. The 1985 President's proposal retains some of this indexation. The author measures the incentives under each regime to make marginal investments in the corporate, noncorporate and housing sectors. Inflation causes current effective tax rates to rise for some assets and fall for others. Overall rates fall with inflation, and the corporate tax is completely offset by credits, allowances, and deductions. Under the proposals, the corporate tax reemerges, effective tax rates are much more uniform, and the interference of inflation is virtually eliminated. *J. Public Econ.*, Feb. 1987, 32(1), pp. 25-51. University of Virginia.

Meagher, G. A.—An Empirical Analysis of the Effects of a Change in the Mix of Direct and Indirect Taxation

This paper analyzes macroeconomic and structural effects of a change in the tax mix. Consumption taxes are increased and PAYE income taxes reduced so as to maintain the real value of total disposable income. The analysis is conducted using an extended version of the ORANI multisectoral model of the Australian economy. The results indicate that, in the absence of a fall in post-tax real wages, the change in the tax mix will increase inflation, reduce employment, and push the balance of trade towards deficit. The changes will be greater the more the direct tax cuts are appropriated as increases in post-tax wages. *Australian Econ. Pap.*, June 1986, 25(46), pp. 47-56. University of Melbourne.

Paqué, Karl-Heinz—The Efficiency of Tax Incentives to Private Charitable Giving—Some Econometric Evidence for the Federal Republic of Germany

This paper presents some econometric estimates of income and price elasticities of charitable contributions for the Federal Republic of Germany. In the major specifications, both elasticities turn out to be well above one in

absolute terms. Tax policy simulations on basis of these estimates indicate that a more generous tax treatment than the current income tax deduction of charitable giving may be warranted on economic efficiency grounds. In addition, some estimates of the crowding-out effect of public spending on private charitable contributions are presented and discussed. *Weltwirtsch. Arch.*, 1986, 122(4), pp. 690-712. Institut für Weltwirtschaft, Kiel.

Pauwels, Wilfried—Correct and Incorrect Measures of the Deadweight Loss of Taxation

Deadweight loss of taxation can be measured in two ways: either as the gain that could have been realized if all taxes had been lump sum or as the loss that would remain if all tax receipts would be returned, in a lump sum way, to the consumer. These two approaches yield different loss measures. Moreover, within each of the two approaches, two loss measures can be defined, one based on the equivalent variation and the other based on the compensating variation. It will be shown that all of the measures based on the compensating variation are unreliable. *Public Finance*, 1986, 41(2), pp. 267-76. University of Antwerp.

Ray, Ranjan—Redistribution through Commodity Taxes: The Nonlinear Engel Curve Case

This paper attempts to measure the redistributive effects of commodity taxation within a nonlinear Engel curve framework. A recent nonlinear demand system (RNLPS) is estimated on Indian budget data and the parameter estimates are used in conjunction with actual tax rates to quantify possible redistribution. The results point to the very limited redistribution that can be achieved by relying on commodity taxation alone. *Public Finance*, 1986, 41(2), pp. 277-84. Delhi School of Economics.

324 State and Local Government Finance

Behrman, Jere R. and Craig, Steven G.—The Distribution of Public Services: An Exploration of Local Governmental Preferences

A local governmental welfare function is specified to explore two of its central characteristics: the equity-productivity trade-off and differential weights across neighborhoods. The con-

strained maximization model is estimated using service outcomes (safety) in the welfare function, as opposed to publicly provided inputs (police), over neighborhoods. The equity-productivity trade-off is found to be considerable, and not all neighborhoods are weighted equally. The results show that inequality aversion and unequal concern by local government over service outcomes must be addressed explicitly to understand the observed distribution of publicly provided inputs, with important implications for standard analysis of local governmental behavior. *Amer. Econ. Rev.*, Mar. 1987, 77(1), pp. 37-49. University of Pennsylvania; University of Houston.

Deno, Kevin T. and Mehay, Stephen L.—Municipal Management Structure and Fiscal Performance: Do City Managers Make a Difference?

Previous research argued that the city manager is more efficient than the mayor-council form of municipal government. However, this paper presents evidence that municipal management structure has no significant impact on municipal expenditures. If political competition is vigorous, elected council members will adopt budgets consonant with the median voter's preferences. This result should hold regardless of the form of city management structure. The authors tested a simple median voter model of local public spending with alternate samples of U.S. cities and were unable to detect a significant difference in expenditures between the two management structures. *Southern Econ. J.*, Jan. 1987, 53(3), pp. 627-42. University of Connecticut; U.S. Naval Postgraduate School, Monterey, California.

Merriman, David—The Distributional Effects of New Jersey's Tax and Expenditure Limitation

A uniform state limit on per capita local government spending will affect high tax capacity communities more than those with low tax capacity (all else equal). However, if other determinants of spending vary and/or allowed spending depends upon characteristics of the community other than tax capacity, a constraint may affect poor communities more than wealthy ones. Empirical analysis of New Jersey data

demonstrates that tax capacity is one of the most important determinants of spending. New Jersey's constraint on spending growth is shown to have affected high tax capacity and low density communities most. *Land Econ.*, Nov. 1986, 62(4), pp. 353-61. University of Texas, Dallas.

325 Intergovernmental Financial Relationships

Dafflon, Bernard and Solari, Paolo—Les part des canton aux recettes fédérales: évolution et incidences en 1983 (The System of Revenue-Sharing between the Federal Government and the Cantons of Switzerland: Evolution and Incidence in 1983)

This paper presents the system of revenue sharing between the federal government and the cantons in Switzerland, and proposes an estimation of incidences. The study of revenue-sharing formulas for the federal direct tax and the withholding tax indicates which sorts of equalization policies are pursued. Estimations of incidence per capita and administrative inefficiency are given. Regression analysis is used to estimate two coefficients of correlation between revenue-sharing per capita in the cantons, on one side, and index numbers of cantonal financial capacities and GNP per canton, on the other side. The results indicate the efficiency of equalization policies. *Schweiz. Z. Volkswirtsch. Statist.*, Mar. 1987, 123(1), pp. 71-86 (French). Universität Freiburg, Switzerland.

Steinberg, Richard S.—Voluntary Donations and Public Expenditures in a Federalist System

Proponents of the new federalism argue that nonprofit organizations and local governments will fully offset federal social service expenditure cutbacks. The author analyzes this proposition as a competitive game in which donations are motivated by private and public good considerations. The author characterizes the response of political-economic equilibrium to exogenous changes in federal expenditures when local voters are cognizant of donor reactions. Partial replacement is the most likely outcome, though others are possible. *Amer. Econ. Rev.*, Mar. 1987, 77(1), pp. 24-36. Virginia Polytechnic Institute and State University.

400 International Economics

410 INTERNATIONAL TRADE THEORY

411 International Trade Theory

Beladi, Hamid and Naqvi, Nadeem—An Analysis of Wage Differentials for a Small Open Economy

In this paper the authors use the specific factor model, cast it in an intertemporal decision making framework, introduce international capital mobility, and obtain a trade model in which the endogenous saving and investment are incorporated. Since there is no insistence on the equality between saving and investment in each time period, a trade imbalance immediately arises. The authors obtain some new results regarding the implications of interindustry wage differential for the pattern and level of investment and for the balance of trade, besides demonstrating that some of the earlier results cease to be valid in the model. *Southern Econ. J.*, Jan. 1987, 53(3), pp. 605-14. Central Michigan University.

Bhagwati, Jagdish N.; Brecher, Richard A. and Hatta, Tatsuo—The Global Correspondence Principle: A Generalization

This paper generalizes the Global Correspondence Principle by extending, in two major ways, Samuelson's (1971) analysis of the exchange-rate response to an international purchasing-power transfer. First, the authors analyze the price effect of a shift in any parameter, not necessarily a transfer. Second, the authors explore the resulting adjustments in any non-price variable such as welfare. As the analysis shows, the direction of these adjustments depends neither on whether they are small or large nor on whether equilibrium is locally stable or unstable. Thus, the authors generalize the conventional algebra of comparative statics, which typically assumes small shifts from a stable equilibrium. *Amer. Econ. Rev.*, Mar. 1987, 77(1), pp. 124-32. Columbia University; Carleton University; Osaka University, Osaka, Japan.

Burgstaller, André—Unifying Ricardo's Theory of Growth and Comparative Advantage

The paper formally integrates Ricardo's two-sector growth model with his theory of compar-

active advantage. Differences with conventional representations of Ricardian trade theory, as well as with Heckscher-Ohlin-Samuelson theory, are noted. It is shown that the Ricardian equilibrium terms of trade are fully determinate, as against the standard Millian view. Also, trade may, depending on direction of specialization, inhibit rather than promote growth and lead to a net contraction of the world economy. *Economica*, Nov. 1986, 53(212), pp. 467-81. Columbia University.

Cassing, J. H.; Hillman, A. L. and Long, N. V.—Risk Aversion, Terms of Trade, Uncertainty and Social-Consensus Trade Policy

In the Ricardo-Viner model under certainty, some specific factors are harmed by any trade tax, and mobile factors favor taxes on some—but not all—goods. This paper demonstrates in the context of the Ricardo-Viner trade model with terms-of-trade uncertainty, that in the presence of incomplete insurance markets a terms-of-trade contingent trade tax commitment can improve welfare (without any explicit income redistribution) for every factor owner. Furthermore, this result holds in both the short run, with factor specificity, and the long run before any investment decision in specificity or mobility has been implemented. *Oxford Econ. Pap.*, July 1986, 38(2), pp. 234-42. University of Pittsburgh; Bar-Ilan University and University of California, Los Angeles; Australian National University.

Dixit, Avinash—On Pareto-Improving Redistributions of Aggregate Economic Gains

This paper considers the existence and characterization of directions of tariff, commodity tax, and transfer payment reforms to ensure a Pareto improvement following a change in the economy's endowments, technology, preferences, or trading possibilities. Motzkin's Theorem on the existence of solutions to dual sets of linear inequalities is extended to the case of non-homogeneous systems and is applied to the comparative statics of the general equilibrium of a large trading economy. By allowing free disposal of commodities to the government, the problem of temporary inefficiency is eliminated. *J. Econ. Theory*, Feb. 1987, 41(1), pp. 133-53. Princeton University.

Donnenfeld, Shabtai and Mayer, Wolfgang—The Quality of Export Products and Optimal Trade Policy

This paper demonstrates that voluntary export restraints may be socially desirable to upgrade the quality of export products. When informational externalities in the recognition of quality result in suboptimal production of quality by competitive firms and the enforcement of socially desirable quality is very costly, optimal trade policy calls for export restrictions. These restrictions apply to both size and number of firms in the export industry. Export licenses combined with a specific production tax *cum* subsidy represent a suitable pair of instruments. *Int. Econ. Rev.*, Feb. 1987, 28(1), pp. 159-74. New York University; University of Cincinnati.

Galor, O. and Polemarchakis, H. M.—Intertemporal Equilibrium and the Transfer Paradox

The transfer paradox may occur in a world with only two countries at a dynamically stable intertemporal competitive equilibrium. In a framework of overlapping generations with production and investment, a transfer of income may immiserize the recipient while enriching the donor. Away from the golden rule, a transfer may result in a Pareto improvement. *Rev. Econ. Stud.*, Jan. 1987, 54(1), pp. 147-56. Brown University; Columbia University and Catholic University of Louvain.

Hartigan, James C. and Tower, Edward—The Leontief Question: A Cobb-Douglas Approach to Simulating the U.S. Income Distribution in Autarky

The question that Leontief (1956) posed in his classic article on U.S. comparative advantage is how income distribution under autarky compares with that under trade. In general, it is necessary to simulate a general equilibrium model with prohibitive tariffs to obtain the autarkic income distribution. However, the authors demonstrate that in an economy with consumer preferences and sectoral production functions, *à la* Cobb-Douglas, autarky is simulated by a simple matrix multiplication. Autarkic factor shares are then independent of factors supplies. The Leontief Paradox is reaffirmed for homogeneous capital and labor, but

disaggregation critically affects the results. *Weltwirtschaft. Arch.*, 1986, 122(4), pp. 677-89. State University of New York, Buffalo; Duke University.

Markusen, James R.—Explaining the Volume of Trade: An Eclectic Approach

Divide the world into a capital-abundant North and a labor-abundant South. Subdivide the North into two identical regions, East and West. Modern trade theory predicts intraindustry trade in differentiated manufactured goods between East and West, and traditional interindustry trade based on factor endowments between North and South. But the theory offers no conclusions about the volume of trade, and gives no real role to demand in determining trade flows. The model developed here explains both the volume and the direction of trade by combining nonhomothetic preferences with scale economies and differences in endowments. *Amer. Econ. Rev.*, Dec. 1986, 76(5), pp. 1002-11. University of Western Ontario.

**420 TRADE RELATIONS; COMMERCIAL POLICY;
INTERNATIONAL ECONOMIC INTEGRATION**

421 Trade Relations

Balassa, Bela—The Determinants of Intraindustry Specialisation in U.S. Trade

This paper sets out to explain the determinants of intraindustry specialization in the United States by reference to industry as well as country characteristics. It is shown that the extent of intraindustry trade is positively correlated with product differentiation, marketing costs, the variability of profit rates, and offshore procurement; and it is negatively correlated with economies of scale, industrial concentration, foreign direct investment, and transportation costs. It is further shown that intraindustry specialization in U.S. trade with individual countries is positively correlated with the extent of trade orientation in these countries; and it is negatively correlated with inequalities in *per capita* incomes and total GNP, and with distance between the United States and the individual countries. *Oxford Econ. Pap.*, July 1986, 38(2), pp. 220-33. The World Bank and Johns Hopkins University.

van Brabant, Jozef M.—Socialist and World Market Prices: An Ingrowth?

This paper presents tests of the relationship between East-West trade prices and intra-Council for Mutual Economic Assistance (CMEA) prices for transferable ruble transactions for two sets of Hungarian data. A special test on the significance of the introduction of the Moscow modification of 1975 is executed where feasible. This is relevant for more than half of the commodities studied. Well-behaved relationships between world and CMEA prices are obtained for the majority of commodities, but frequently the elasticities diverge significantly from unity. This suggests that changes in average East-West trade prices are transmitted into the CMEA price formula only partly. For those products for which the relationship is statistically weak, other determinants of CMEA prices should be explored. *J. Compar. Econ.*, Mar. 1987, 11(1), pp. 21-39. United Nations.

Culem, Claudy G.—Foreign Trade Behavior in a Small Open Economy (Belgium 1970-1980)

Unlike imports, an infinite price elasticity of supply is not a realistic assumption for exports, especially in the short run and for a small country. This is why a simultaneous approach is developed to appraise the export behavior of the Belgian manufacturing industry during the 1970s. Both a supply and demand curve are specified and estimated simultaneously in view of the two-way relationship between price and quantity. The estimates are used to assess the stability of foreign trade, the pricing policy of exporters, and the evolution of their international market shares. *Scand. J. Econ.*, 1987, 89(1), pp. 55-70. University of Brussels.

422 Commercial Policy

Bredahl, Maury E.; Schmitz, Andrew and Hillman, Jimmmy S.—Rent Seeking in International Trade: The Great Tomato War

This paper presents a model of international rent-seeking activities by producers in both exporting and importing nations. The model is applied to the winter vegetable trade between the United States and Mexico. An analysis is made of the attempts to form export/import coalitions. Reasons for these failures are given. Due to past failures to impede trade, essentially

free trade in winter vegetables between the two countries exists. *Amer. J. Agr. Econ.*, Feb. 1987, 69(1), pp. 1-10. University of Missouri; University of California, Berkeley; University of Arizona.

Hartigan, James C.; Perry, Philip R. and Kamma, Sreenivas—The Value of Administered Protection: A Capital Market Approach

The focus of this paper is on the escape clause petitions filed under the Trade Act of 1974 (Section 201). First, the capital market event study method is used to analyze the effects of protection decisions. Then, cross-section regressions are performed to examine the influence of key variables on the observed market reaction. The authors conclude that while protection is beneficial to beleaguered industries, the extent of such benefits is quite narrowly circumscribed and is conditional on internal variables for each firm. Protection is thus not the panacea that its advocates claim. *Rev. Econ. Statist.*, Nov. 1986, 68(4), pp. 610-17. State University of New York, Buffalo; State University of New York, Buffalo; Indiana University.

Ramstad, Yngve—Free Trade versus Fair Trade: Import Barriers as a Problem of Reasonable Value

John R. Commons's theory of Reasonable Value is employed to develop a theoretical rationale for adding "the employment of labor at less than reasonable standards" to the unfair trade practices specified in the Trade Act of 1974. It is shown that "protectionism" of this type serves the public interest by extending to international trade a governing principle of intranational trade—fair trade through reasonable protection from "destructive competition." In developing the argument, Commons's theory is summarized and contrasted with the free trade position. A regulatory structure through which a fair determination of "reasonable standards" can be obtained is also identified. *J. Econ. Issues*, Mar. 1987, 21(1), pp. 5-32. University of Rhode Island.

430 INTERNATIONAL FINANCE

431 Open Economy Macroeconomics; Exchange Rates

Backus, David—The Canadian-U.S. Exchange Rate: Evidence from a Vector Autoregression

A vector autoregression is used to elicit empirical facts concerning exchange rate movements. The author finds (1) the exchange rate, relative price levels, and trade balances are closely related; (2) most other lagged variables have no perceptible influence in the exchange rate equation; (3) exchange rate innovations are negatively correlated with innovations in output and prices, positively with innovations in the balance of trade, and almost not at all with innovations in money; and (4) impulses in money, trade balances, and government spending are followed by opposing future movements in the exchange rate and the price level. Taken as a whole, the evidence suggests that exchange rate changes may be associated with real, rather than monetary, shocks. *Rev. Econ. Statist.* Nov. 1986, 68(4), pp. 628-37. Queen's University.

Bhandari, Jagdeep S. and Rahmatian Morteza—Country Size and 'Insulation' from External Disturbances

This paper considers the relationship between economic size and vulnerability to external disturbances. In order to analyze this issue effectively a model comprising three different sized economies is constructed. The issue of economic size and insulation is approached from this alternative perspective depending upon the relative size of (1) the "recipient country" and (2) the "transmitting" country. The results of the analysis indicate that, contrary to popular belief, a small country under floating exchange rates is less severely affected by external economic events than a large economy regardless of the type of external disturbance and the degree of domestic wage indexation. *Economist*, 1986, 134(4), pp. 438-66. West Virginia University.

Buffie, Edward F.—Input Price Shocks in the Small Open Economy

This paper investigates the short run, macroeconomic effects of an OPEC-type price shock in a two-sector, tradables-nontradables model with a very general treatment of production. General conditions are derived under which the impact effects of the shock will be stagflationary and the outcomes, in a variety of special cases, are examined. Surprisingly, it is found

that in many cases stag-deflationary Keynesian unemployment is to be expected. *Oxford Econ. Pap.*, Nov. 1986, 38(3), pp. 551-65. University of Pennsylvania.

Calvo, Guillermo A.—Balance of Payments Crises in a Cash-in-Advance Economy

The author shows that a flexible-prices, Si-drauski-type model with a cash-in-advance constraint is capable of depicting some of the phenomena associated with a balance of payments crisis, like the ones recently observed in Argentina and Mexico (current-accounts deficits, and appreciation of the real exchange rate). It is also shown that these phenomena become exacerbated as the rate of devaluation (before the crisis occurs) becomes smaller. *J. Money, Credit, Banking*, Feb. 1987, 19(1), pp. 19-32. University of Pennsylvania.

Dornbusch, Rudiger—Exchange Rates and Prices

The adjustment of relative prices to exchange rate movements is explained in an industrial organization approach. Given labor costs in the respective currencies, exchange rate movements change costs for firms selling in the home market and thus disturb the industry equilibrium. The extent of absolute and relative price adjustment is shown to depend on market integration, product substitutability, the relative number of domestic and foreign firms, and the market structure. The impact of exchange rates on prices is illustrated in a variety of approaches including the Cournot, A. Dixit and J. Stiglitz (1977) and S. Salop (1979) models. Some empirical evidence is offered in support of the theory. *Amer. Econ. Rev.*, Mar. 1987, 77(1), pp. 93-106. Massachusetts Institute of Technology.

Fender, John—Monetary and Exchange Rate Policies in an Open Macroeconomic Model with Unemployment and Rational Expectations

A two-period, two-good open economy macroeconomic model is constructed. There is excess supply of labor in each period, and agents have rational expectations about future economic variables. Money is also introduced explicitly into the analysis; agents determine their

money holdings, consumption, and savings through a process of intertemporal optimization. A number of different exchange-rate regimes are possible, and in each of these the effects of monetary and exchange-rate policies are analyzed. *Oxford Econ. Pap.*, Nov. 1986, 38(3), pp. 501-15. Pennsylvania State University.

Frankel, Jeffrey A. and Froot, Kenneth A.—Using Survey Data to Test Standard Propositions Regarding Exchange Rate Expectations

Survey data provide a new measure of exchange-rate expectations superior to the forward rate in that no risk premium interferes. The authors test standard propositions using three sources of survey data. The authors estimate extrapolative, adaptive, and regressive models of expectations. Static or "random walk" expectations and bandwagon expectations are rejected: variables other than the contemporaneous spot rate receive positive weight. A 10 percent appreciation of the dollar generates an expectation of future depreciation over the coming year estimated at 2 percent. In comparing expectations to the true process governing the spot rate, the authors find statistically significant bias. *Amer. Econ. Rev.*, Mar. 1987, 77(1), pp. 133-53. University of California, Berkeley; Massachusetts Institute of Technology.

Genberg, Hans; Salemi, Michael K. and Swoboda, Alexander—The Relative Importance of Foreign and Domestic Disturbances for Aggregate Fluctuations in the Open Economy: Switzerland, 1964-1981

This paper studies whether the advent of floating exchange rates served to insulate Switzerland from economic shocks of foreign origin. It estimates a vector autoregression comprising four Swiss and three world aggregate time series, and interprets the results in terms of the properties of the vector moving average representation implied by the estimates. The chief finding is that foreign shocks explain most of the systematic variation of the Swiss variables in both regimes. *J. Monet. Econ.*, Jan. 1987, 19(1), pp. 45-67. Graduate Institute of International Studies, Geneva; University of North Carolina; Graduate Institute of International Studies, Geneva.

Holmes, Elhanan and Razin, Assaf—Exchange Rate Management: Intertemporal Tradeoffs

Exchange-rate management is possible only if the government pursues consistent monetary and fiscal policies. The authors construct a model in which the real consequences of exchange-rate management depend on the precise time pattern of these policies. The authors study the constraints on feasible policies and the comparative dynamics of disinflation by means of exchange-rate targeting. Theoretical results are consistent with exchange-rate-managed disinflation attempts in Argentina, Chile, and Israel. *Amer. Econ. Rev.*, Mar. 1987, 77(1), pp. 107–23. Tel-Aviv University.

Huang, Roger D.—Expectations of Exchange Rates and Differential Inflation Rates: Further Evidence on Purchasing Power Parity in Efficient Markets

The paper tests the null hypothesis of *ex ante* purchasing power parity. The empirical evidence obtained is inconsistent with the null for major industrialized countries over the current floating exchange-rate regime. Expected nominal exchange rate changes appear to deviate systematically from expected inflation-rate differentials over the same holding period even though real exchange-rate changes appear to be serially uncorrelated. This supports the presence of time-varying risk premium in foreign exchange markets and real determinants of exchange-rate movements as suggested by equilibrium theories of international asset markets. *J. Finance*, Mar. 1987, 42(1), pp. 69–79. University of Florida.

Ito, Takatoshi and Roley, V. Vance,—News from the U.S. and Japan: Which Moves the Yen/Dollar Exchange Rate?

Intradaily movements in the yen/dollar exchange rate are examined in four nonoverlapping segments within each business day from January 1980 to September 1985. The results indicate that the dollar tended to appreciate in the New York segment and depreciate in the European segment. In three of the four subsamples considered, the Tokyo segment made virtually no contribution to annual yen/dollar rate movements. The volatility of the ex-

change rate also differed across markets. Finally, in examining the relative effects of news from the United States and Japan explicitly, U.S. money announcement surprises had the most consistent effects. *J. Monet. Econ.*, Mar. 1987, 19(2), pp. 255–77. University of Minnesota; University of Washington.

LaCivita, Charles J.—Currency, Trade, and Capital Flows in General Equilibrium

This paper studies currency, trade, and capital flows in a one-good general equilibrium exchange model with utility-maximizing individuals. The effects of both monetary and endowment shocks are examined. The effects of monetary shocks depend on whether the countries hold each other's currency. If so, flexible exchange rates do not insulate them from each other's monetary policy. Under deterministic monetary policies, the country with the lower monetary growth rate generates a surplus in its current account and balance of payments. If monetary policy is stochastic, capital flows are also generated. The effects of endowment shocks depend on whether equity markets exist. If so, trade, but not capital flows, are generated. If not, capital flows are also generated. *J. Bus.*, 60(1), pp. 113–35. Naval Postgraduate School, Monterey, California.

Lamdany, Ruben and Dorlhiac, Jorge—The Dollarization of a Small Economy

Within a utility maximizing framework, the authors study the effects of replacing the national currency with the dollar in a small, open economy. The impact effect is a drop in the levels of liquidity and wealth. The economy reaccumulates real balances by reducing consumption and showing a trade surplus. The welfare implications of the program depend on the social rate of time preference and the inflation rate differential. The authors show that the United States can improve both its own welfare and that of the small country by "bribing" it into switching currencies, and study how these results change with the introduction of capital mobility. *Scand. J. Econ.*, 1987, 89(1), pp. 91–102. Columbia University.

Mantel, Rolf R. and Martirena Mantel, Ana M.—Acerca de las ventajas comparadas de

sistemas de "Crawling-Peg" activo y pasivo en la economía pequeña (On the Comparative Advantage of an Active and a Passive "Crawling-Peg" Exchange Rate System for the Small Economy)

The paper studies the temporal dynamic properties of different crawling-peg exchange rate systems with the purpose of analyzing whether these alternative exchange rate rules can be sustained over time. The paper contradicts previous results reached with the PPA rule. It is shown, among several other results, that once the real sector is adjusted, the financial sector behaves exactly like the strict PPA rule, and consequently it shares its problems, multiple equilibria, lateral stability, and eventual collapse. *Económica*, May-Dec. 1985, 31(2-3), pp. 147-70 (Spanish). University of Buenos Aires.

Niehans, Jürg—Monetary Policy and Investment Dynamics in Interdependent Economies

A dynamic two-country model is used to determine the adjustment paths of prices, interest rates, exchange rates, and capital flows after a change in monetary policy. The principal controlling factor is the reaction of investment to capital goods prices (Tobin's q). Monetary expansion in one country produces deflationary pressure abroad. There is an instant decline in the world interest rate followed by a gradual rise. Exchange rates may overshoot or undershoot their steady-state level. The same applies to capital flows, but there is no correspondence between the paths of exchange rates and capital flows. *J. Money, Credit, Banking*, Feb. 1987, 19(1), pp. 33-45. University of Bern.

Pope, David H.—Australian Capital Inflow, Sectional Prices and the Terms of Trade: 1870-1939

The paper examines the role of "traded" and "domestic" goods prices in international capital transfers. Difficulties of measurement and conceptualization are discussed, and the causal relations between capital flows to Australia, Australia's terms of trade and "domestic prices" are investigated over the years 1870-1939 using Sargent's (1976) dynamic regression test of Granger (1969) causality. The results suggest:

that capital inflow proceeded without causing the terms of trade of the importer to change; that the ratio of "domestic" to "traded" goods prices rose, helping to effect the capital transfer; and that "domestic" prices positively feedback on capital inflow. *Australian Econ. Pap.*, June 1986, 25(46), pp. 67-82. University of New South Wales.

So, Jacky C.—The Sub-Gaussian Distribution of Currency Futures: Stable Paretian or Nonstationary?

This study conducts an empirical test to examine whether the observed non-normal distribution of currency futures price changes is generated by the relationship between maturity and variability. In general, the author finds that the relationship between maturity and variability is not sufficient to explain the observed non-normality. Although some amount of non-stationarity is present in the scale and in the characteristic exponent, the non-normal stable Paretian distribution adequately describes futures price changes for most currencies and most contracts during the period covered in this study. *Rev. Econ. Statist.*, Feb. 1987, 69(1), pp. 100-07. Southern Illinois University, Edwardsville.

Stockman, Alan C. and Svensson, Lars E. O.—Capital Flows, Investment, and Exchange Rates

This paper incorporates international capital flows into a two-country, monetary-general-equilibrium model of asset prices with investment and production. The authors calculate theoretical covariances between investment, the current account, the exchange rate, and the terms of trade. These covariances depend upon the coefficient of relative risk aversion, the magnitude and sign of a country's net international indebtedness, other properties of tastes and technologies, and the stochastic processes on disturbances to productivity and monetary growth rates. International capital flows arise from changes in world wealth and its relative composition in foreign and domestic assets. *J. Monet. Econ.*, Mar. 1987, 19(2), pp. 171-201. University of Rochester; University of Stockholm.

433 International Monetary Arrangements

Jäger, Henk and de Jong, Eelke—The Perspective of the SDR's Position in Monetary Reserves: On the Robustness of Optimal Portfolio Results

To gain an empirical impression of the Special Drawing Right's attractiveness as a reserve asset, an amended mean variance analysis is applied to official reserves. The main amendments bear upon the choice of the numéraire and the rejection of both the capital market line and the effective yield's positive marginal utility—frequently assumed in empirical analysis. Comparison of the outcome with that recently obtained by A. Ben-Bassat (1984) shows a large sensitivity of optimal portfolio results for slight differences in assumption. A second, substantial kind of sensitivity of an asset's position in a portfolio appears to ensue from the influence of other competing functions of reserves. *De Economist*, 1986, 134(4), pp. 417–37. University of Amsterdam.

Swanson, Peggy E.—A Preliminary Assessment of the Impact of Floating Exchange Rates on International and Vehicle Currency Uses of U.S. Dollars

This paper attempts to determine if the international and vehicle currency roles of the U.S. dollar were affected significantly when the United States adopted floating exchange rates in 1973. Thus, the role of dollar transactions in foreigners' demand for U.S. dollars during a period of fixed exchange rates (1965I–1973I) is compared to demand during a period of floating exchange rates (1973II–1983IV). Evidence exists that international and vehicle dollar usage did decrease when exchange rate regimes changed, but the changes are not significant unless dollar balances held in the United States are included in foreigners' holdings. *Quart. J. Bus. Econ.*, Spring 1987, 26(2), pp. 3–21. University of Texas at Arlington.

433 Private International Lending

Jain, Arvind K. and Gupta, Satyadev—Some Evidence on "Herding" Behavior by U.S. Banks

The authors examine the international lending decisions of U.S. commercial banks of different sizes from 1977 to 1982 for evidence of the

existence of "herding" behavior. Granger-Sims causality tests for the loans granted by the top nine, the next fifteen, and the remaining U.S. banks provide no clear evidence of herding between the top nine and the next fifteen banks. There is, however, evidence that the remaining banks (mostly small ones) herded behind the top twenty-four banks. Overall, the analysis presented here points to a very weak herding behavior. *J. Money, Credit, Banking*, Feb. 1987, 19(1), pp. 78–89. McGill University; St. Thomas University.

440 INTERNATIONAL INVESTMENT AND FOREIGN AID

441 International Investment and Long-term Capital Movements

Chen, Tain-Jy—Alternative Policies for Foreign Investment in the Presence of Tariff Distortions

This paper examines two alternative policies for a small, tariff-distorted country hosting foreign investment. One policy is to allow foreign firms to operate behind the tariff wall; the other is to confine them in a free-trade area. Using a specific factor model, the author shows that confining foreign firms in a free-trade area is superior. Furthermore, under that setting, a subsidy to foreign firms on the use of capital is an optimal policy if they can be prevented from paying domestic workers with their own products. *Australian Econ. Pap.*, Dec. 1985, 24(45), pp. 394–403. University of Mississippi.

442 International Business

Batra, Raveendra N.—A General Equilibrium Model of Multinational Corporations in Developing Countries

Using a two-sector model of international trade that incorporates the behavior of multinational corporations in developing economies, this paper shows that if the multinational corporations (MNCs) transfer only technology, but no capital, then employment and national income decline in the developing country. Only if the technology transfer is accompanied with substantial transfer of capital, do the MNCs benefit a developing economy. Therefore, the MNCs should be encouraged to provide both technology and capital to a labor-surplus country. *Oxford Econ. Pap.*, July 1986, 38(2), pp. 342–53. Southern Methodist University.

Dunning, John H.—The Investment Development Cycle Revisited

This article seeks to explain the propensity of developing countries to engage in outward direct investment. Contrary to first world multinational enterprises (MNEs), those from the third world are mainly concerned with exploiting individual and unique asset advantages. Since the latter are likely to reflect country specific characters, it follows that the patterns of overseas investment by third world MNEs is more nearly explainable by a factor endowment model. Moreover, as yet only a few third world MNEs operate integrated strategies; this is usually reserved to a later stage of the development cycle. *Weltwirtsch. Arch.*, 1986, 122(4), pp. 667–76. University of Reading.

Horstmann, Ignatius J. and Markusen, James R.—Strategic Investments and the Development of Multinationals

A model of multinational behavior is presented in which either the existence or absence of multinationals can be a Nash equilibrium outcome. The key determinant is the relationship between plant scale economies (a force for geographic centralization) and multiplant economies plus transport costs (leading to multinationality). The model predicts that multinational enterprise production arises when firm-specific and transportation costs are large relative to plant scale economies. The latter are both a technological and a strategic variable in the entry decision. *Int. Econ. Rev.*, Feb. 1987, 28(1), pp. 109–21. University of Western Ontario.

500 Administration; Business Finance; Marketing; Accounting

510 ADMINISTRATION

512 Managerial Economics

Barzel, Yoram—The Entrepreneur's Reward for Self-policing

Collaboration among people is often subject to shirking; the net gain from collaboration depends on the contract governing it. The author argues that the entrepreneur assumes the role of residual claimant because his actions are more costly to monitor than those of the factors

with which he collaborates. By offering fixed pay contracts to others and becoming residual claimant, the entrepreneur curtails his incentive to gain at his partners' expense, and the net gain from collaboration is then maximized. Costly monitoring applies to both labor and capital, and thus the entrepreneur may supply both. The entrepreneur's capital serves to guarantee the pay of the other factors. *Econ. Inquiry*, Jan. 1987, 25(1), pp. 103–16. University of Washington.

520 BUSINESS FINANCE AND INVESTMENT

521 Business Finance

Bar-Yosef, Sasson; Callen, Jeffrey L. and Livnat, Joshua—Autoregressive Modeling of Earnings-Investment Causality

The purpose of this paper is to empirically test the relationships between corporate earnings and investment. In particular, the study investigates whether knowledge of past investments improves the prediction of future earnings beyond predictions that are based on past earnings alone. Similarly, it investigates whether knowledge of past earnings improve the prediction of future investments beyond knowledge of past investments alone. This is the empirical definition of Granger causality. The empirical results show that the bivariate past series of earnings and investments is superior to the univariate series in predicting future investment, but not in predicting future earnings. *J. Finance*, Mar. 1987, 42(1), pp. 11–28. Hebrew University; Hebrew University and McMaster University; Hebrew University and Vanderbilt University.

Connolly, Robert A.; Hirsch, Barry T. and Hirschey, Mark—Union Rent Seeking, Intangible Capital, and Market Value of the Firm

This study considers the effect of unions on intangible capital investment and profitability within the context of market value rather than a more traditional accounting-based approach. Theory is provided suggesting unions are able to affect profitability by sharing in the economic returns to firm-specific intangible capital. In support of this hypothesis, we find unionization reduces the returns to R&D and produces a corresponding limiting influence on R&D in-

vestment at the firm level. *Rev. Econ. Statist.*, Nov. 1986, 68(4), pp. 567-77. University of California, Irvine; University of North Carolina, Greensboro; University of Colorado, Denver.

Fons, Jerome S.—The Default Premium and Corporate Bond Experience

By incorporating previous work on the default experience of low-rated corporate debt, this paper presents an introduction to risk-neutral models of risky bond pricing and uses these to examine the relationship between the default premium embodied in bond yields and actual default rates. The contribution of macroeconomic information to the default premium is also examined. The authors find that holders of low-grade bonds have, on average, been compensated for losses due to default. *J. Finance*, Mar. 1987, 42(1), pp. 81-97. Federal Reserve Bank of Cleveland.

Marsh, Terry A. and Merton Robert C.—Dividend Behavior for the Aggregate Stock Market

The authors develop and estimate a model of the dynamic behavior of aggregate corporate dividends as a function of the change in permanent earnings of firms. Although structured along the lines of J. Lintner's (1956), J. Brittain's (1966), and E. F. Fama and H. Babiak's (1968) models of individual firm dividend behavior, the model uses changes in stock prices instead of accounting earnings to measure permanent-earnings changes. The performance of the model is compared with both the accounting earnings-based models and the trend-autoregressive model associated with R. J. Shiller (1981). *J. Bus.*, Jan. 1987, 60(1), pp. 1-40. University of California, Berkeley and Stanford University; Massachusetts Institute of Technology.

Williams, Joseph T.—Perquisites, Risk, and Capital Structure

In a corporate agency problem, perquisites and risk interact to produce novel, complex comparative statics. For example, even if additional debt induces risk-neutral insiders to increase risk, they never seek to increase the market value of their stock; instead, insiders decrease the present value of their subsequent, conditionally optimal perquisites. Also, the

firm's optimal capital structure includes a risky bond with an agreement to remove insiders whenever the bond defaults. However, the optimal sharing rule between corporate claimants cannot be supported solely by standard securities like bonds, stock, options, and their hybrids. *J. Finance*, Mar. 1987, 42(1), pp. 29-48. New York University.

522 Business Investment

Chirinko, Robert S.—Tobin's Q and Financial Policy

Recent research in macroeconomics has emphasized the importance of linking the financial and real sectors and working with optimizing models. Tobin's Q model of investment would appear to provide a framework satisfying these two criteria. In contrast to the original presentation of the Q model, the formal development has not recognized that the firm actively participates in a number of financial markets; in this broader context, Q may be an uninformative and possibly misleading signal for investment expenditures. The author then endeavors to turn this negative theoretical result to positive advantage in resolving a number of empirical problems with Q models. *J. Monet. Econ.*, Jan. 1987, 19(1), pp. 69-87. University of Chicago and National Bureau of Economic Research.

600 Industrial Organization; Technological Change; Industry Studies

610 Industrial Organization and Public Policy

Masten, Scott E.—Institutional Choice and the Organization of Production: The Make-or-Buy Decision

This paper provides a simple model which treats the firm's make-or-buy decision as part of a producer's overall optimization problem. Comparative static results offer support for several contentions advanced in the transaction-cost literature. More importantly, the model permits investigation of a number of interactions and relationships not readily amenable to verbal analysis. In particular, the effects of asset specificity and uncertainty on optimal contract length are examined, and a tendency to underinvest in transaction-specific assets under external procurement is demonstrated. *J. Inst. Theo-*

Journal of Economic Literature, Sept. 1986, 24(3), pp. 493-509. University of Michigan.

Market Structure: Industrial Organization and Corporate Strategy

Chatterjee, Sudipto; Chatterjee, Kalyan and Samuelson, Larry—Sequential Research and the Adoption of Innovations

The authors examine a firm able to adopt an innovation of uncertain profitability; reject an innovation; or delay deciding in order to acquire information on profitability. Deriving an optimal strategy from established sequential sampling literature, the authors construct a theory of the diffusion of innovation. Firms are assumed to hold identical prior expectations of an innovation's profitability, and to conduct privately observed experiments on its profitability. The naturally arising distribution of experimental results yields a distribution of adoption times exhibiting established facts on innovation diffusion. Finally the authors examine the implications of strategic interactions between firms, where this affects both the learning process and the results of adoption. *Oxford Econ. Pap.*, pp. Nov. 1986, 38, pp. 219-43. University of California, Berkeley; Pennsylvania State University; Pennsylvania State University.

Anderson, James A. and Lewis, Tracy R.—Oligopoly and Financial Structure: The Limited Liability Effect

The authors argue that product market decisions and financial structure will normally be related. Assuming an oligopoly structure in which financial decisions and output decisions follow in sequence, it is shown that limited liability may commit a leveraged firm to a more aggressive output stance, expanding its market share and profit at the expense of a fully equity-financed rival. Firms will therefore have incentives to use financial structure to influence the product market, leading, normally, to an interlocking solution for the debt equity ratio even in the absence of bankruptcy costs and tax advantages of debt. *Amer. Econ. Rev.*, Dec. 1986, 76(5), pp. 956-70. University of British Columbia.

Armstrong, Lance; Klein, J. Douglass and Weiss, Leonard W.—The Price Effects of Increased Competition in Auction Markets

Bidding theory predicts lower selling winning bids (higher buying winning bids) as numbers of bidders increase. Alternative versions predict that winning bids fall (rise) with the second order statistic, the maximum order statistic, or $1/N$. The authors test these predictions using data on underwriters' spreads on tax exempt bonds, offshore oil tracts, and National Forest timber. They estimate winning bids using general variables for the product and dummies for 1, 2, . . . 11 bidders. In all cases more bidders mean significantly lower (selling) winning bids. The expected maximum order statistic fits better than either the second order statistic or $1/N$, in ten out of twelve cases. *Rev. Econ. Statist.*, Feb. 1987, 69(1), pp. 24-32. University of Wisconsin, Milwaukee; Union College, Schenectady; University of Wisconsin, Madison.

Eaton, Jonathan and Grossman, Gene M.—The Provision of Information as Marketing Strategy

The authors study the disclosure of information about product characteristics as part of firms' competitive strategy. A model of a differentiated products duopoly is constructed in which firms may choose whether or not to reveal the attributes of their product to consumers with heterogeneous tastes. The authors analyze the implications of disclosure versus nondisclosure for firms' profits and consumer welfare, and identify the Nash equilibrium marketing strategies corresponding to different competitive conditions. They also consider an expanded game in which firms initially select their product types. *Oxford Econ. Pap.*, Supp. Nov. 1986, 38, pp. 166-83. University of Virginia; Princeton University.

Ghemawat, Pankaj and Caves, Richard E.—Capital Commitment and Profitability: An Empirical Investigation

Opportunities to precommit costs can either increase the rents of incumbent firms (by deterring entry), or decrease them (through commitment races and lapses into noncooperation). Authors seek to discriminate statistically between these predictions in the determinants of profits of businesses in a cross-section of concentrated markets for producer nondurables. Overall, a business's profitability declines with its industry's scope for precommitting production capacity (sunk costs). However, variables interacted

with the scope for commitment do not point clearly toward one or the other mechanism. Therefore, commitment opportunities seem likely to lead to deterrence and noncooperative rivalry in proportions that differ idiosyncratically among markets. *Oxford Econ. Pap.*, Supp. Nov. 1986, 38, pp. 94-110. Harvard University.

Hansen, Robert G.—A Theory for the Choice of Exchange Medium in Mergers and Acquisitions

This paper presents a theory for the choice of exchange medium in mergers and acquisitions. The model used is one of bargaining under asymmetric information. When a target firm knows its value better than a potential acquirer, the acquirer will prefer to offer stock, which has desirable contingent-pricing characteristics, rather than cash. Either tax effects or asymmetric information on the acquiring side can make the acquirer's choice a nontrivial one. With asymmetry on both sides of the transaction, a signaling equilibrium develops whereby the target uses both exchange medium offered and the amount of any stock offer as signals of the acquiring firm's value. Several testable implications emerge for when stock trades will be observed, and some mildly supportive evidence is presented. *J. Bus.*, Jan. 1987, 60(1), pp. 75-95. Dartmouth College.

Joskow, Paul L.—Contract Duration and Relationship-Specific Investments: Empirical Evidence From Coal Markets

This paper examines empirically the importance of relationship investments in determining the duration of coal contracts negotiated between coal suppliers and electric utilities, using data for 277 coal contracts. For each contract, measures of the duration of contractual commitments agreed to by the parties at the contract execution stage and measures of the importance of relationship specific investments are developed. The results provide strong support for the view that buyers and sellers make longer commitments to the terms of future trade at the contract execution stage, and rely less on repeated bargaining, when relationship-specific investments are more important. *Amer. Econ. Rev.*, Mar. 1987, 77(2), pp. 168-85. Massachusetts Institute of Technology.

Katz, Michael L. and Shapiro, Carl—Product Compatibility Choice in a Market with Technological Progress

In markets where advantages, e.g., network externalities, are significant, firms' product compatibility choices are an important determinant of industry performance. This paper compares the private and social incentives to achieve compatibility in a two-period duopoly model with (possible stochastic) technological progress. Earlier analysis using static models found that the social incentives to achieve industrywide compatibility always exceed the private incentives. Here the authors find that private firms may have socially excessive compatibility incentives because compatibility serves as a means of relaxing price competition during early stages of industry growth. *Oxford Econ. Pap.*, Supp. Nov. 1986, 38, pp. 146-65. Princeton University.

Leech, Dennis—Ownership Concentration and the Theory of the Firm: A Simple-Game-Theoretic Approach

A model of the shareholder constraint is described in terms of the relationship between shareholding concentration and corporate control. A unified perspective (including takeovers as a special case) is developed whereby leading coalitions are costly to form and possess power in a shareholder voting game. Control is defined in terms of power indices for simple games. A static theory of the firm is developed in terms of the optimal formation of controlling coalitions. A dynamic theory of an owner-controlled firm is described which explains increasing shareholding dispersion accompanying growth. *J. Ind. Econ.*, Mar. 1987, 35(3), pp. 225-40. University of Warwick, Coventry, England.

Odagiri, Hiroyuki and Yamashita, Takashi—Price Mark-Ups, Market Structure, and Business Fluctuation in Japanese Manufacturing Industries

Howard Wachtel and Peter Adelsheim (1977) and Keith Cowling (1983) have argued that firms in concentrated industries tend to increase their price mark-ups in recession. This hypothesis is variously tested for Japanese manufacturing industries in 1958-82. Most of the results weakly suggest an effect opposite to

Wachtel and Adelsheim and only when industry-specific business conditions are taken into account, is some, albeit weak, evidence found in favor of them. *J. Ind. Econ.*, Mar. 1987, 35(3), pp. 317-31. University of Tsukuba, Ibaraki, Japan; Tokyo Electric Power Co., Tokyo.

Perloff, Jeffrey M. and Salop, Steven C.—Firm-Specific Information, Product Differentiation and Industry Equilibrium

Where consumers have imperfect information about specific firms' prices and lack information about the market, firms have informational market power. In general, improving the consumers' information about each firm's price will not necessarily lower the average market price. The authors show however that certain types of improvements will lower price. Moreover a reduction in barriers to entry (e.g., capital costs) will lower price, holding information constant. Where a significant number (but not all), consumers have perfect information, single-price equilibria are impossible. *Oxford Econ. Pap.*, Supp. Nov. 1986, 38, pp. 184-202. University of California, Berkeley; Georgetown University Law Centre.

Powell, Irene—The Effect of Reductions in Concentration on Income Distribution

The simulation model of this study indicates that a decline in above normal profits associated with concentration will cause a redistribution of income from the highest of six income classes to low and middle income classes. The magnitude of gains and losses range from 0.2 to 0.9 percent of income for reductions in four-firm concentration ratios to 50 percent in all manufacturing industries. The methodology uses consumer expenditure data and input-output information to estimate the impact on payments made to capital, and uses income tax data on income sources by income class to estimate the impact on income received from capital ownership. Estimates of the change in profits resulting from a change in concentration are based on a published concentration-profits regression. *Rev. Econ. Statist.*, Feb. 1987, 69(1), pp. 75-82. Mount Holyoke College.

Yamawaki, Hideki—Exports, Foreign Market Structure, and Profitability in Japanese and U.S. Manufacturing

This paper examines the influence of price decisions by foreign firms on export price decisions by domestic firms. The theoretical analysis develops a general model which hypothesizes a positive relation between export price and foreign price assuming international product differentiation. This model further suggests that export price depends on foreign structural traits as they determine foreign price. The empirical analysis, based on a cross-section of sixty-nine four-digit manufacturing industries matched between the United States and Japan, provided support for the hypothesis that foreign market structure and foreign pricing affect export pricing and thus the observed price-cost margin. *Rev. Econ. Statist.*, Nov. 1986, 68(4), pp. 618-27. International Institute of Management, Berlin.

612 Public Policy toward Monopoly and Competition

Adams, Walter and Brock, James W.—Corporate Size and the Bailout Factor

An unequivocal advantage of large corporate size is found to be the unique capacity of giant firms to obtain government bailouts. Nor are big firm bailouts limited solely to obvious, explicit government financial rescues (like Chrysler). In addition, they are found to occur in a variety of indirect—but equally important—ways. These are examined, and supporting evidence is adduced. Some implications of these findings are discussed, including doubts about the wisdom of recent efforts to weaken the nation's structural antitrust policies, especially as regards mega-mergers and the bigness complexes created in their wake. *J. Econ. Issues*, Mar. 1987, 21(1), pp. 61-85. Michigan State University; Miami University, Oxford, Ohio.

Rosenbaum, David L.—Predatory Pricing and the Reconstituted Lemon Juice Industry

Current antitrust doctrine seemingly accepts average variable cost as one possible boundary between competitive and predatory pricing. Certain authors contend, however, that equally efficient rivals can sometimes be excluded from a market even when a dominant firm prices above its own average variable cost. This is particularly true in industries where product differ-

entiation is important. A model is developed to test for this type of predatory conduct. The model is applied to the reconstituted lemon juice industry. It is shown that under certain conditions, even prices above average variable cost can be exclusionary. *J. Econ. Issues*, Mar. 1987, 21(1), pp. 237-58. University of Nebraska.

613 Regulation of Public Utilities

Roberts, Mark J.—Economies of Density and Size in the Production and Delivery of Electric Power

Three measures of economies of density and size are developed to analyze the cost structure of firms which deliver a product to a geographically dispersed group of customers. The measures arise because output expansions due to increased demands by existing customers, demands by new customers in the service area, or an expansion of the service area can each have a different impact on ray average cost. In the case of electric power supply, the important source of declining ray average cost is an increase in consumption per customer and not an increase in the customer density or size of the firm's service area. *Land Econ.*, Nov. 1986, 62(4), pp. 378-87. Pennsylvania State University.

615 Economics of Transportation

Bayliss, Brian T.—Structure of the Road Haulage Industry in the United Kingdom, and Optimum Scale

The study analyzes the change in the structure of the road haulage industry in the United Kingdom since the early 1930s. It concludes that the size of the common carrier operator has increased over the period, but this is concealed in official statistics through the inclusion of restricted license operators. Industry growth and cost models are developed, and it is argued that regulation has prevented road haulage operators from achieving a minimum efficient scale. Comparisons with other countries suggest that operators in these countries have been more severely impeded in relation to the realization of a minimum efficient scale. *J. Transp. Econ. Policy*, May 1986, 20(2), pp. 153-72. University of Bath.

Beesley, Michael E.—Commitment, Sunk Costs, and Entry to the Airline Industry: Reflections on Experience

The theory of contestable markets suggests that, given completely free entry into the market, the exploitation of natural monopoly situations is limited by the costs not of entry but of exit. The magnitude of sunk costs is thus crucial in determining the need for regulatory protection. Air transport has been cited as a highly contestable market because of the mobility and versatility of the capital equipment used. This paper is a case study of an attempted entry into the international air market, identifying the nature and magnitude of the sunk costs involved and the extent to which these costs arise from the nature of the regulatory process itself rather than from the inherent characteristics of the business. *J. Transp. Econ. Policy*, May 1986, 20(2), pp. 173-90. London Graduate School of Business Studies.

Davies, J. E.—Competition, Contestability and the Liner Shipping Industry

This paper demonstrates that the international liner shipping industry can be appropriately described as highly contestable. It is shown that sunk costs are very low, entrants and incumbents are symmetrically placed, and the price sustainability condition is satisfied. Empirically, Canadian data show frequent entry and exit, hit and run entry, and large scale entry. Thus far from being a theory without facts, the contestability principle is shown to be extremely relevant in the economic analysis of the ocean shipping industry. *J. Transp. Econ. Policy*, Sept. 1986, 20(3), pp. 299-312. Acadia University, Wolfville, Canada.

Evans, Andrew—A Theoretical Comparison of Competition with Other Economic Regimes for Bus Services

This paper uses a theoretical model to compare the economics of bus services operated under four different regimes: competition, maximization of net economic benefit (subject to the constraint that the service must break even), unregulated monopoly, and unconstrained maximization of net economic benefit. A time segment from an infinitely-long day, and a bus route with a finite time cycle of 60

minutes are considered separately. The analogy between spatial competition, such as that between shops, and temporal competition between buses is used. Ideas from spatial competition are coupled with the exponential demand model drawn from public transport. *J. Transp. Econ. Policy*, Jan. 1987, 21(1), pp. 7-36. University of Bristol.

Hayashi, Paul M. and Trapani, John M.—The Impact of Energy Costs on Domestic Airline Passenger Travel

This paper examines the role of energy costs in determining fare levels and the quality of service provided by airline carriers. This research is important to our understanding of how fuel cost changes may impact capacity provided to airline markets, and to our assessment of the consequences of deregulation of the airline industry during an unprecedented period of rising energy costs. The authors find that rising aviation fuel costs will reduce capacity supplied in city-pair markets and thereby reduce passenger demand, other things the same. Independently, rising ground travel costs induce greater passenger demand. The overall effect of increased energy cost of the magnitude experienced between 1971-1979 is simulated for a competitive airline market. The authors find that the typical city-pair market will have lower capacity, reduced passenger demand, and higher load factors. This capacity reduction has often been attributed to deregulation when, in fact, it is the result of higher fuel cost facing airline carriers. *J. Transp. Econ. Policy*, Jan. 1987, 21(1), pp. 73-86. University of Texas, Arlington.

Joy, Stewart—Contestable Market Analysis in the Australian Domestic Airline Industry

William Baumol's contestability analysis is presently being applied to the Australian domestic airline industry, with its long-standing, government-imposed "two airline" policy. In the absence of real-time experimentation, the behavior of the chosen two airlines in the past, and particularly the way in which they have organized regional services into separate corporate entities, gives powerful leads as to the airlines' private views of the diseconomies of scale and scope in airline operation. The structure

of airline markets and niches is discussed, and it is concluded that the more airlines, the greater the total airline passenger market, and that as soon as a second carrier is introduced, there is no case for limiting the number of participants. *J. Transp. Econ. Policy*, May 1986, 20(2), pp. 245-54. Australian Ministry of Transport, Melbourne.

Kirby, Michael G.—Airline Economies of "Scale" and Australian Domestic Air Transport Policy

A conceptual framework for considering scale economies is developed which more effectively utilizes all the available information on the multiproduct nature of airline activities. The estimated cost model reveals substantial economies of operation with respect to load factors, aircraft size, and stage length, but diseconomies associated with serving more ports and increased departures from a given port. Simulation of various policy alternatives indicates the existence of substantial potential cost savings in the Australian domestic airline industry. *J. Transp. Econ. Policy*, Sept. 1986, 20(3), pp. 339-52. Australian Bureau of Agricultural Economics, Canberra.

Kolsen, H. M.—Transport Policy in Australia: The Role of the Inter-State Commission

This article examines the extent to which transport economics is able to influence transport policy given the existence of historical, institutional, constitutional, and political constraints which differ considerably between countries. The Australian Federation has some unique features, which include provisions in the Australian Constitution for the establishment of an Inter-State Commission. After discussion of the initial reasons for this, the re-establishment of the Commission in 1984 and its activities are examined in the context of transport policy in the Australian Federation. *J. Transp. Econ. Policy*, May 1986, 20(2), pp. 275-82. University of Queensland, Australia.

Mackie, Peter J. and Simon, David—Do Road Projects Benefit Industry? A Case Study of the Humber Bridge

A prime justification for the roads program is to improve industrial competitiveness by re-

ducing transport costs, yet little empirical work has been done to examine this linkage. This is because roads tends to be improved incrementally except where estuaries are crossed. A case study of fifty-two regular commercial users of the new Humber Bridge demonstrates that operators adjusted by increasing vehicle use, increasing market penetration, changing market areas served, and by internal rationalization. Labor time savings could generally be productively used so that, in this case, the "cost saving" approach to valuing working time savings is not unreasonable. *J. Transp. Econ. Policy*, Sept. 1986, 20(3), pp. 377-84. University of Leeds.

Menashe, Eliahu and Guttman, Joel M.—Uncertainty, Continuous Modal Split, and the Value of Travel Time in Israel

This paper develops a car-bus modal split model for an Israeli sample, which differs from most previous modal split models in two respects: (1) the uncertainty of commuters regarding the difference in time cost between the two modes is taken into account, and (2) the dependent variable is continuous rather than dichotomous. The results suggest that uncertainty is indeed an important element in modal choice and that continuous modal split models can achieve higher levels of statistical explanation than binomial or multinomial models. *J. Transp. Econ. Policy*, Sept. 1986, 20(3), pp. 369-75. University of Houston; Bar-Ilan University, Israel.

Sharp, Clifford; Button, Kenneth and Deadman, Derek—The Economics of Tolled Road Crossings

This paper examines the nature and problems of tolling crossings in the United States and the United Kingdom. It outlines the basic economic theory upon which tolls could be based and considers the divergence of current practices from this theory. It pays particular attention to the difference in approach adopted by the central authorities of the two countries and examines reasons for these differences and the implications for the pursuit of an efficient transport policy. Some estimates are provided of the long-term debt problems, which are likely to be encountered on certain crossings in the U.K.

if current policies are continued. *J. Transp. Econ. Policy*, May 1986, 20(2), pp. 255-74. University of Leicester.

Teal, Roger F. and Berglund, Mary—The Impact of Taxicab Deregulation in the USA

Many economists have contended that deregulation of the urban taxicab industry would result in benefits to consumers in the form of lower prices, improved service, and a wider variety of price-service options. Several large U.S. cities have deregulated their taxi industries, but in both telephone order and cabstand markets the empirical results have not been consistent with prior theoretical expectations. This paper analyzes the results of taxi deregulation in these U.S. cities and offers explanations, based on industrial organization concepts, of why this policy has largely failed to produce benefits for either consumers or providers. *J. Transp. Econ. Policy*, Jan. 1987, 21(1), pp. 37-56. University of California, Irvine.

616 Industrial Policy

Tomer, John F.—Developing Organizational Comparative Advantage via Industrial Policy

Cooperative interorganizational relationships such as those between business and government are very important to a nation's productivity. The benefits of cooperation between organization become clear when ideal cooperative situations are contrasted with a range of less cooperative ones using the Prisoner's Dilemma game and externalities analysis. The final section examines the implications for the organizational dimension of an industrial policy. The purpose of an organizational policy is to bring the behavior of organizations closer to the ideal and, therefore, to achieve an organizational comparative advantage for the nation. Conventional economic policies or regulation are found lacking in this respect. *J. Post Keynesian Econ.*, Spring 1987, 9(3), pp. 455-72. Manhattan College.

619 Economics of Regulation

Glaister, Stephen—Regulation through Output Related Profits Tax

Prospects are discussed for regulating a multiproduct, monopolistic enterprise through a tax on profit at a rate variable with output. Selec-

tion of weights when defining output could induce outcomes ranging from Ramsey pricing to any desired pattern of cross subsidy. The telecommunications industry is used to illustrate. If quality depends upon output (as in public transport) socially optimal pricing would be induced. The scheme has the advantage of limiting detailed intervention and preserving the profit motive. However, unrealistic assumptions are necessary and implementation would require a great deal of information. This limits its practical value. *J. Ind. Econ.*, Mar. 1987, 35(3), pp. 281-96. London School of Economics.

Lee, Wayne Y. and Thakor, Anjan V.—Regulatory Pricing and Capital Investment with Asymmetric Information about Cost

The paper discusses how regulators, *a priori* uninformed about a monopolistic firm's variable cost, should set output price for the firm. The regulator's objective is to maximize weighted average of consumer and producer surplus. It shows that the informational asymmetry between the regulator and the firm can be effectively resolved by making price a function of the firm's level of capital investment. The properties of this price schedule and its implications for the firm's investment decision are explicitly characterized. It shows that if a firm has higher variable cost, it invests less capital, is awarded a higher price, and enjoys lower profit. *Southern Econ. J.*, Jan. 1987, 53(3), pp. 720-34. Santa Clara University; Indiana University.

620 ECONOMICS OF TECHNOLOGICAL CHANGE

621 Technological Change; Innovation; Research and Development

Beath, John; Katsoulacos, Yannis and Ulph, David—Sequential Product Innovation and Industry Evolution

A certain sequence of innovations in a vertically differentiated good is considered. Two firms are engaged in a series of bidding games to acquire the (infinitely-lived) patents to these. Managerial diseconomies restrict firms to producing a single good which is chosen optimally from the set of patents owned by the firm. Product market equilibrium is Bertrand. Two theorems provide (1) a sufficient condition for the current leader to be overthrown (action-reac-

tion) and (2) a necessary and sufficient condition for persistent dominance. An illustrative example shows that sequences satisfying these conditions can always be constructed. *Econ. J.*, Supp. 1987, 97, pp. 32-43. University of Bristol; University of Liverpool; University of Bristol.

Farrell, Joseph and Saloner, Garth—Installed Base and Compatibility: Innovation, Product Preannouncements, and Predation

A good is often more valuable to any user, the more others use compatible goods. The authors show that this effect may inhibit innovation. If an installed base exists and transition to a new standard must be gradual, early adopters bear a disproportionate share of transient incompatibility costs. This can produce "excess inertia." The installed base, however, is "stranded" if the new standard is adopted: this may create "excess momentum." These dynamic effects have strategic implications. Temporary price cutting can permanently prevent entry; and product preannouncements can be critical in innovation. These strategic actions have ambiguous welfare effects. *Amer. Econ. Rev.*, Dec. 1986, 76(5), pp. 940-55. GTE Laboratories, Waltham, Massachusetts; Massachusetts Institute of Technology.

Ireland, N. and Stoneman, P.—Technological Diffusion, Expectations and Welfare

This paper investigates a simple intertemporal model to illustrate the effect of different forms of expectations formation by the buyers of technology on the extent and time path of the usage of a new technology. In addition, the related questions of the optimal rate of take up of new technology, and the design of policies to achieve such a rate, are considered. *Oxford Econ. Pap.*, July 1986, 38(2), pp. 283-304. University of Warwick.

Jaffe, Adam B.—Technological Opportunity and Spillovers of R&D: Evidence from Firms' Patents, Profits, and Market Value

This paper quantifies the effects of exogenous variations in the state of technology (technological opportunity) and of the R&D of other firms (spillovers of R&D) on the productivity of firms' R&D. The R&D productivity is increased by the R&D of "technological neighbors," though

neighbors' R&D lowers the profits and market value of low-R&D-intensity firms. Firms are shown to adjust the technological composition of their R&D in response to technological opportunity. *Amer. Econ. Rev.*, Dec. 1986, 76(5), pp. 984-1001. Harvard University.

Levin, Sharon G.; Levin, Stanford L. and Meisel, John B.—A Dynamic Analysis of the Adoption of a New Technology: The Case of Optical Scanners

Two proportional hazard models are used to investigate the differing effects of market structure variables on the conditional probability of a firm initially adopting the new technology of optical scanners as the innovation spreads through the food store industry. During the early stage, leading firms with large average store size which are not members of chains and which operate in less concentrated markets with higher incomes and wage rates, tend to adopt scanners sooner. Later on, differences in seller concentration, market share, and size become less important as other firms follow prior adoptions. *Rev. Econ. Statist.*, Feb. 1987, 69(1), pp. 12-17. University of Missouri, St. Louis; Southern Illinois University, Edwardsville; Southern Illinois University, Edwardsville.

Pavitt, Keith; Robson, Michael and Townsend, Joe—The Size Distribution of Innovating Firms in the UK, 1945-1983

A survey of 4,378 significant innovations shows that firms with fewer than 1,000 employees commercialized a much larger share than is indicated by their share of R and D expenditures. Innovations per employee have been consistently above average in firms with more than 10,000 employees, and have become so in firms with fewer than 1,000. Intersectoral variation in the size distribution of innovating firms can be explained as a function of R and D-based technological opportunities, and of "technological ease of entry" by user firms with principal activities outside the sector. *J. Ind. Econ.*, Mar. 1987, 35(3), pp. 297-316. University of Sussex.

Wozniak, Gregory D.—Human Capital, Information, and the Early Adoption of New Technology

When producers are uncertain or have imperfect information about the profitability of adopting new technology, their adoption behavior depends on the endowment of human capital and the investment in adoption information. This study analyzes the role of education, experience, and information acquisition in the decision to be an early adopter. The findings support the thesis that adoption decision making is a human capital intensive activity. The econometric evidence presented suggests that education and information reduce adoption costs and uncertainty, and thereby raise the profitability of early adoption. Adoption behavior is also shown to vary significantly across firm size. *J. Human Res.*, Winter 1987, 22(1), pp. 101-12. University of Tulsa.

630 INDUSTRY STUDIES

631 Industry Studies: Manufacturing

Akridge, Jay T. and Hertel, Thomas W.—Multiproduct Cost Relationships for Retail Fertilizer Plants

Retail fertilizer plants produce a number of products and services. To analyze the relationship between cost and output for these multiproduct firms, a short-run translog cost function is estimated using pooled data. Measures of economies of scope and scale are calculated. Results indicate plants can lower average cost by increasing output and by diversifying into anhydrous ammonia. Furthermore, preliminary evidence indicates that firms in the sample are overinvested in plant and equipment. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 928-38. Purdue University.

Daly, Michael J. and Rao, P. Someshwar—Free Trade, Scale Economies and Productivity Growth in Canadian Manufacturing

Liberalized trade between Canada and the United States has long been advocated on the grounds that it would permit Canadian manufacturers to take advantage of the scale economies associated with a larger market and thus lead to improved productivity. This paper reports estimates of the degree of scale economies and its contribution to total factor productivity growth in 22 Canadian manufacturing industries. The main conclusion is that the exten-

of scale economies has been grossly exaggerated. Consequently, the potential productivity gains to Canada from freer trade are unlikely to be as great as some economists have predicted. *Manchester Sch. Econ. Soc. Stud.*, Dec. 1986, 54(4), pp. 391-402. Economic Council of Canada.

McCheaney, Fred S.—Sensationalism, Newspaper Profits and the Marginal Value of Watergate

Newspaper publishers supposedly profit from sensational events. Focusing on the two different products sold by publishers, newspapers and advertising space, this paper shows why sensational events do not necessarily increase publishers' wealth. It also uses financial market analysis to examine the wealth effects of one sensational event, Watergate, on a portfolio of newspaper stocks and on the *Washington Post* in particular. No significant effects are found. *Econ. Inquiry*, Jan. 1987, 25(1), pp. 135-44. University of Chicago.

632 Industry Studies: Extractive Industries

Boyd, Gale A.—Factor Intensity and Site Geology as Determinants of Returns to Scale in Coal Mining

Increasing returns to scale (RTS) is frequently postulated as affecting productivity in surface coal mining. However, it is not clear whether increased capital intensity or increased output is the relevant phenomenon. A ray-homothetic production function that incorporates the capital labor mix and fixed site geology into the scale elasticity is presented and estimated with a micro (mine level) dataset. The results indicate that higher capital intensity contributes to higher RTS for some types of capital equipment, but not all. On the average, increasing RTS was found, with few mines approaching optimal scale. *Rev. Econ. Statist.*, Feb. 1987, 69(1), pp. 18-23. Argonne National Laboratory, Argonne, Illinois.

Geroski, Paul A; Ulph, Alistair M. and Ulph, David T.—A Model of the Crude Oil Market in Which Market Conduct Varies

This paper describes a model which first identifies (in an estimatable manner) parameters which describe the conduct each decision

maker in an oligopoly expects from its rivals, and then allows them to vary in a systematic fashion across rivals and over time. The model is applied to ten producing countries in the crude oil market (1966I to 1981III). A fully dynamic demand system is estimated, together with equations describing price choice and variations in conduct, and the null hypothesis of constant conduct is rejected against the more general alternative proposed here. *Econ. J. Supp.* 1987, 97, pp. 77-86. University of Southampton; University of Southampton; University of Bristol.

Hoffman, Elizabeth and Marsden, James R.—Testing Informational Assumptions in Common Value Bidding Models

This paper provides an example of a means of linking mathematical theory, laboratory experiments, and standard empirical work. Theory, by necessity, abstracts from the naturally occurring world, and experiments designed to test theory must incorporate the same abstractions. On the other hand, empirical tests are generally performed on naturally occurring data, which may not reflect those same abstractions. Given this possible divergence, naturally occurring data should be tested for consistency with theoretical assumptions whenever possible. On the basis of standard symmetric bidding theory, this paper reports on a preliminary version of such a test for offshore oil bidding data. *Scand. J. Econ.*, 1986, 88(4), 627-41. Purdue University; University of Kentucky.

Mulherin, J. Harold—Specialized Assets, Governmental Regulation, and Organizational Structure in the Natural Gas Industry

Recent scholarship has posited that the form of organization chosen for an individual transaction will be affected by the particular features of the transaction, including the degree of asset specificity. This paper applies the thoughts of this scholarship to the organizational structure of the U.S. natural gas industry during this century. Complex methods of organization, such as vertical integration, exclusive dealing, and requirements contracts, are shown to be competitive responses to the possibility of opportunistic behavior. These results contradict the historical association of such methods with mar-

ket power and have direct implications for anti-trust and energy policy. *J. Inst. Theoretical Econ.*, Sept. 1986, 142(3), pp. 528-41. Clemson University.

636 Nonprofit Industries: Theory and Studies

Feigenbaum, Susan—Competition and Performance in the Nonprofit Sector: The Case of U.S. Medical Research Charities

This paper develops a model of nonprofit firm behavior which links nonprofit market structure, firm-specific characteristics, and firm performance. A method for defining nonprofit industries is proposed in order to generate measures of intramarket competition for donations in one specific philanthropic "industry"—the medical research charity industry. These measures and other data are used to estimate structure-performance relationships implied by the behavioral model. Analysis of administrative, fundraising and research allocations shows that market structure is indeed important in determining the behavior of charities. Increases in market concentration lead to reduced funding for research projects and greater discretionary expenditures. *J. Ind. Econ.*, Mar. 1987, 35(3), pp. 241-53. Claremont McKenna College, Claremont, California.

700 Agriculture; Natural Resources

710 AGRICULTURE

711 Agricultural Supply and Demand Analysis

Delgado, Christopher L.—A Variance Components Approach to Food Grain Market Integration in Northern Nigeria

A variance components methodology is developed for joint tests on a sample of time series of prices for seasonal differences in the price integration of markets. The approach requires a statistically adequate number of observations for each market within seasons characterized by constancy of transactions costs among markets. The model is applied to eighteen months of weekly grain prices for twenty-two villages in northern Nigeria. Results suggest that markets are not well integrated in the six months covering the harvest period. Implications are drawn for research on market performances in the region. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 970-79. International Food Policy Research Institute, Washington, D.C.

Knapp, Keith C.—Dynamic Equilibrium in Markets for Perennial Crops

A dynamic equilibrium model for perennial crop markets is formulated. Price expectations are formed according to perfect foresight, and both the age composition of the crop and the optimal rotation are determined endogenously. The model is applied to the California alfalfa market. The calculated long-run equilibrium acreage is quite close to average acreage over the base period. The results also exhibit cyclical fluctuations in acreage with a six percent coefficient of variation. Thus, cyclical behavior can arise from technical characteristics of the production process as well as from imperfectly formed expectations or random exogenous shocks. *Amer. J. Agr. Econ.*, Feb. 1987, 69(1), pp. 97-105. University of California, Riverside.

Olmstead, Alan L. and Wooten, Donald B.—Bee Pollination and Productivity Growth: The Case of Alfalfa

The spread of commercial pollination has received little attention in the literature analyzing the growth in U.S. agricultural productivity. Between World War I and 1960, growers of most fruits, nuts, and seeds came to realize that intensive bee pollination was essential to achieve high yields. Alfalfa seed growers were among the last groups to adopt commercial pollination. This article examines the dramatic impact that concentrating bees in alfalfa seed fields has had on yields, resulting in the restructuring of the alfalfa industry (the fourth most valuable commodity grown in the United States) in the 1950s. *Amer. J. Agr. Econ.*, Feb. 1987, 69(1), pp. 56-63. University of California, Davis.

Thurman, Walter N.—The Poultry Market: Demand Stability and Industry Structure

The stability of the demand for poultry meat and specification issues in its estimation are explored. The analysis concludes that the demand for poultry meat shifted out in the early 1970s. At the same time, the demand relationship between poultry and pork changed from substitution to independence. A second conclusion is that poultry price is predetermined for demand in annual U.S. data, while quantity is not. A predetermined price suggests several market structures, and exogeneity tests are performed

to distinguish among them. The results are consistent with a competitive, constant returns-to-scale industry facing elastic factor supplies. *Amer. J. Agr. Econ.*, Feb. 1987, 69(1), pp. 30-37. North Carolina State University.

713 Agricultural Policy, Domestic and International

Byerlee, Derek, and Sain, Gustavo—Food Pricing Policy in Developing Countries: Bias against Agriculture or for Urban Consumers?

Price policy discrimination against agricultural producers, in order to provide cheap food for urban consumers, has been widely cited in development forums as a cause of agricultural stagnation. Evidence is presented that suggests no consistent pattern of discrimination against producers for a major food commodity, wheat. However, consumer subsidies and trade policies have reduced bread prices to urban consumers in many countries. Price data from the early 1980s are assembled for thirty-one developing countries. Nominal protection coefficients for producers and consumers at official and corrected exchange rates and wheat-fertilizer price ratios are estimated for each country. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 961-69. International Maize and Wheat Improvement Center, Islamabad, Pakistan; International Maize and Wheat Improvement Center, Mexico City, Mexico.

Gardner, Bruce L.—Causes of U.S. Farm Commodity Programs

This paper is an attempt to explain variations by commodity in producer protection afforded by farm price support programs since the 1930s. Particularly emphasized are the ideas that these programs are essentially income redistributive measures and that, given political forces, the programs are attempts to redistribute efficiently. Variables associated with the cost to producers of generating political pressure and the social cost (deadweight losses) of redistribution are both found to be empirically important. *J. Polit. Econ.*, Apr. 1987, 95(2), pp. 290-310. University of Maryland.

LeBlanc, Michael and Hrubovcak, James—The Effects of Tax Policy on Aggregate Agricultural Investment

The effects of tax policies on aggregate agricultural investment are examined. Results from this analysis suggest that tax policies are effective in promoting agricultural investment. Nearly 20 percent of net investment in agricultural equipment during the period 1956 through 1978 is attributed to tax policy. From 1956 to 1978, tax policy has stimulated, in real dollars, over \$5 billion in net investment in equipment and in excess of \$1 billion in structures. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 767-77. U.S. Department of Agriculture, Washington, D.C.

Schmitz, Andrew; Sigurdson, Dale and Doering, Otto—Domestic Farm Policy and the Gains from Trade

This paper assesses the extent to which the gains from agricultural trade are influenced by both U.S. domestic policy and tariff and nontariff trade barriers. It shows theoretically that the volume of trade can be substantial but the gains nonexistent. Empirical results, along with rent-seeking arguments, support the no-gains-from-trade hypothesis. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 820-27. University of California, Berkeley; Government of Saskatchewan, Canada; Purdue University.

714 Agricultural Finance

Ahmad, Ismail; Duft, Ken D. and Mittelhammer, Ron C.—Analyzing Equity Capital Programs of Banks for Cooperatives

Characteristics of Banks for Cooperatives' term loan and equity capital programs contribute toward complex intermittent exchanges of positive and negative cash flows between the cooperative lender and borrower, and complicate the analysis of the net present value and effective interest of the financing project. A multiperiod linear program was developed to analyze the effect of variations in equity capital program components on the present value of the financing project. Furthermore, the concept of a "mixed financing project" was used to analyze the effective interest rate associated with such projects. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 849-56. Universiti Pertanian Malaysia, Serdang; Washington State University; Washington State University.

Leathers, Howard D. and Chavas, Jean-Paul—Farm Debt, Default, and Foreclosure: An Economic Rationale for Policy Action

Economic analysis of farm programs typically focuses on economic costs. Here we show that, because of market failures and imperfections, there are possible economic benefits to be derived from programs which reduce or eliminate the threat of default and foreclosure. A production model of an indebted firm is developed and serves as a basis for an aggregate model which identifies possible costs and benefits from a program of transfers to indebted farmers. The challenge facing policy makers is to design programs which capture the benefits of reducing the probability of default while minimizing perverse incentive effects of such programs. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 828-37. University of Maryland; University of Wisconsin.

Lowenberg-DeBoer, John and Boehlje, Michael—The Impact of Farmland Price Changes on Farm Size and Financial Structure

A modified Vickers model (1968) is used to show that farmland capital gains provide incentive to increase farm acreage and debt use. Farmland capital losses have the opposite effect. The model indicates that part of the current financial vulnerability of the U.S. farm sector can be traced to management decisions made in response to the farmland capital gains of the 1970s. The effects are not purely tax driven, although taxes can affect the magnitude of incentives. The Vickers model is modified to allow a finite horizon, taxes, and the recognition of unrealized capital gain or loss. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 838-48. Purdue University; University of Minnesota.

715 Agricultural Markets and Marketing

Caswell, Julie A.—Dominant Forms of Corporate Control in the U.S. Agribusiness Sector

Two forms of control over corporate decision making are analyzed: direct control through stockholding and network control through interlocking board of directors. A majority of the 222 large agribusiness firms studied had strong direct control by owners or cooperatives, while

the largest firms lacked such control. Tests relating direct control type to level of network control exposure show that strong direct control is associated with weak network control and vice versa, with firm size being the major factor in explaining both types of control. For the largest firms, network-based rather than direct control appears to limit the management discretion. *Amer. J. Agr. Econ.*, Feb. 1987, 69(1), pp. 11-21. University of Massachusetts.

Hauser, Robert J. and Andersen, Dane K.—Hedging with Options under Variance Uncertainty: An Illustration of Pricing New-Crop Soybeans

The behavior of a commodity's price-return variance over time is critical to both the theory and practice of commodity option valuation. In this paper, three models are used to forecast soybean price variance for the period during which a seasonal increase in variance has been found in previous studies. A time-series model outperforms the ordinary least squares and naive models. The significance of the forecast error levels is then examined in terms of expected deviations above and below a price target for a put hedge. The resulting trade-off between risk and return is shown by strike price and variance expectation. *Amer. J. Agr. Econ.*, Feb. 1987, 69(1), pp. 38-45. University of Illinois.

Thompson, Stanley R. and Bond, Gary E.—Offshore Commodity Hedging under Floating Exchange Rates

Exchange rate uncertainty can have significant effects on the optimal hedging behavior of offshore commodity traders. In this paper, the standard commodity hedging framework is extended to incorporate exchange rate uncertainty and forward cover transactions in the foreign exchange market. The implications of exchange rate movements and forward cover decisions for offshore commodity hedgers are illustrated using data relevant to hedging Australian export wheat on the Chicago Board of Trade. *Amer. J. Agr. Econ.*, Feb. 1987, 69(1), pp. 46-55. Michigan State University; Livestock and Grain Producers Association, Armidale, Australia.

Zanias, George P.—Adjustment Costs and Rational Expectations: An Application to a Tobacco Export Model

The effect of adjustment costs on international trade has been captured in an ad hoc fashion in past analysis, whereas a certainty environment is many times assumed. In this article, adjustment costs are explicitly considered in the modeling procedure of tobacco exports from Greece, and rational expectations are introduced. The results are consistent with considerable price competition and a large difference between immediate and long-run responses due to adjustments costs, that explain in part the evolution of tobacco exports from Greece and suggest that their elasticities might be found in international trade if adjustment costs are properly treated. *Amer. J. Agr. Econ.*, Feb. 1987, 69(1), pp. 22–29. University of Oxford.

716 Farm Management

Anderson, James L. and Wilen, James E.—Implications of Private Salmon Aquaculture on Prices, Production, and Management of Salmon Resources

The emergence of large-scale salmon ranching in the Pacific Northwest has led to significant controversy over the potential impact of salmon ranching on market structure, salmon prices, ocean and aquacultural production, and salmon fishing regulation. This paper models the behavior of a dominant salmon rancher facing a competitive open-access fishery using dynamic nonlinear programming. Primary attention is given to production and regulation-influencing strategies of an optimally managed salmon ranch under selected institutional and biological constraints. The effect of such behavior is evaluated with regard to salmon prices, natural salmon stocks, ocean fishing effort, and ocean fishery productivity. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 866–79. University of Rhode Island; University of California, Davis.

Antle, John M. and Hatchett, Stephen A.—Dynamic Input Decisions in Econometric Production Models

This study develops an econometric methodology for estimating dynamic production mod-

els with sequential intermediate input decisions. Two problems arise in the study of intermediate inputs: intermediate input decisions may be endogenous to final output, and intermediate inputs are likely to be correlated with each other and other variables, making identification and estimation difficult. The econometric model measures the productivity of intermediate inputs, taking into account the farmer's sequential input decisions and input productivity differences during the growing season. A multistage Cobb–Douglas model of wheat response to irrigation water is used to illustrate the proposed methods. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 939–49. University of California, Davis; North Carolina State University.

Barry, Peter J. and Robison, Lindon J.—Economic versus Accounting Rates of Return for Farm Land

This paper explores the differences in pricing and rate of return relationships for nondepreciable (land) assets and depreciable assets. These relationships are evaluated analytically and in terms of other studies that have identified inconsistencies between accounting and economic rates of return. Asset pricing models formulated under certainty conditions are used to highlight the pricing differences, and a simulated numerical analysis is used to illustrate the effects of different parameter values. Implications then are considered for measures of investment performance and liquidity management. *Land Econ.*, Nov. 1986, 62(4), pp. 388–401. University of Illinois; Michigan State University.

Lee, Hyunok and Chambers, Robert C.—Expenditure Constraints and Profit Maximization in U.S. Agriculture

This paper considers the effect of expenditure constraints on producer profit maximization. A theory of expenditure-constrained profit maximization that provides restrictions for testing the competing null hypotheses of unconstrained and expenditure-constrained profit maximization is developed. The resulting model is fitted to aggregate U.S. agricultural data. The hypothesis of unconstrained profit maximization is rejected, while expenditure-constrained profit maximization cannot be rejected for U.S. agri-

culture. U.S. farmers apparently experience binding constraints in financing their variable production costs. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 857-65. U.S. Department of Agriculture, Washington, D.C.; Council of Economic Advisers, Washington, D.C. and University of Maryland.

McSweeney, William T.; Kenyon, David E. and Kramer, Randall A.—Toward an Appropriate Measure of Uncertainty in a Risk Programming Model

The measure of uncertainty in a risk-programming problem has long posed a dilemma. The use of the variance of realized returns assumes that the distribution of realized returns is the same as the distribution anticipated by the decision maker prior to the start of production. Rejection of this maintained hypothesis requires either direct elicitation of these distributions or construction of another measure from realized data. A mean-squared error is considered an appropriate measure. Optimal solutions to a quadratic risk-programming problem are obtained using this measure and compared to those obtained using traditional measures. *Amer. J. Agr. Econ.*, Feb. 1987, 69(1), pp. 87-96. The Pennsylvania State University; Virginia Polytechnic and State University; Virginia Polytechnic and State University.

Musser, Wesley N.; Tew, Bernard V. and White, Fred C.—Choice of Depreciation Methods for Farm Firms

Accelerated depreciation methods are usually considered to increase the present value of after-tax cash flows for farm firms compared to straight line methods. Review of the theoretical foundation of this conclusion indicates that it requires an assumption of constant marginal income tax rates, which is inappropriate for many farm firms. Numerical analysis of a more general theoretical model, and a detailed capital budgeting example, both indicate that straight line methods are preferred with income tax rates below maximum levels and/or lower discount rates. General recommendations on depreciation methods are therefore impossible. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 980-89. Oregon State University; University of Kentucky; University of Georgia.

Reid, Donald W. and Bradford, Garrett L.—A Farm Firm Model of Machinery Investment Decisions

This article presents a multiperiod mixed integer programming (MMIP) model of optimal machinery decisions. Infinite horizon valuation models of replacement and other investment situations are conceptualized in the context of a finite programming model. Dual properties of the MMIP model are used to identify and value opportunity costs involved in investment decisions of farm machinery. The interdependent nature of investment and production relationships necessary for solving these values emphasizes the importance of a holistic firm perspective in analyzing farm machinery investment strategies. An empirical situation is used to demonstrate model application. *Amer. J. Agr. Econ.*, Feb. 1987, 69(1), pp. 64-77. University of Georgia; University of Kentucky.

Romero, Carlos; Amador, Francisco and Barco, Antonio—Multiple Objectives in Agricultural Planning: A Compromise Programming Application

This article shows how multiobjective programming, compromise programming, and filtering techniques can be used to tackle some problems found in agricultural planning. A real case involving the establishment of workers' co-operatives within an agrarian reform program in Andalusia (Spain) is studied. The underlying problem is to find a compromise between the following objectives: employment, seasonal labor, and business profitability. The multiobjective programming approach is used to find the efficient set among these objectives, and after a filtering procedure, a compromise between the objectives is established based on the compromise programming approach. *Amer. J. Agr. Econ.*, Feb. 1987, 69(1), pp. 78-86. University of Cordoba, Spain.

Stefanou, Spiro E.—Technical Change, Uncertainty and Investment

The expected investment dynamics of the risk-neutral firm is examined in the presence of uncertainty in the future evolution of the real wage and the stock of technical knowledge. A model of the adjustment cost firm is developed that is characterized by quasi-fixed, factor-

augmenting technical change that is taken exogenously by the firm. The effect of wage and technical change uncertainty on investment behavior is assessed using comparative stochastic dynamics analysis. *Amer. J. Agr. Econ.*, Feb. 1987, 69(1), pp. 158-65. Pennsylvania State University.

Vasavada, Utpal and Chambers, Robert G.—Investment in U.S. Agriculture

Resource adjustment problems in U.S. agriculture are motivated against the background of the farm problem. The adjustment cost hypothesis is invoked to specify and estimate consistently a system of dynamic investment demand and output supply equations by utilizing recent advances in dynamic duality theory. The investment demand equations assume the form of a multivariate flexible accelerator. Results indicate that labor, capital services, and land exhibited quasi-fixity while intermediate materials were a variable factor. This can be construed as a form of asset fixity within aggregate U.S. agriculture. The univariate flexible accelerator hypothesis is rejected. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 750-60. University of Georgia; Council of Economic Advisers, Washington, D.C. and University of Maryland.

717 Land Reform and Land Use

Caswell, Margaret F. and Zilberman, David—The Effects of Well Depth and Land Quality on the Choice of Irrigation Technology

This paper introduces a framework to study the effects of farm characteristics (land quality and well depth) and irrigation technology characteristics (application effectiveness and pressurization requirement) on a farmer's choice of irrigation system. Conditions indicating how the adoption of drip or sprinkler irrigation affects water and energy demands are presented, as well as conditions under which these technologies are likely to be adopted. Two functional forms for the production function (quadratic and Cobb-Douglas) are presented with realistic values of key parameters. The empirical analysis demonstrates the importance of using forms which are consistent with the classical three stages of production. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 798-811. University of California,

Santa Barbara; University of California, Berkeley.

McGuckin, J. Thomas, et al.—Optimal Control of Irrigation Scheduling Using a Random Time Frame

A dynamic programming model of irrigation scheduling is developed which accounts for stochastic weather conditions, results in simple irrigation decision rules, and can be operated on current microcomputers. The model employs heat unit intervals, instead of chronological time, to define the dynamic equations of the crop-soil system. Procedures are outlined for estimating the transition probabilities of climate within the heat unit intervals. When compared to maximum yield irrigation scheduling, the model increases net returns of corn, sorghum, and cotton by \$10,000 to \$30,000 per acre. Coauthors are Craig Mapel, Robert Lansford, and Ted Sammis. *Amer. J. Agr. Econ.*, Feb. 1987, 69(1), pp. 123-33. New Mexico State University, Las Cruces.

Peterson, Willis—Land Quality and Prices

Although land values reflect land quality, the quality characteristics that determine values are only partly related to agricultural uses. The results of estimating a reduced-form equation explaining differences in land prices among states suggest that nearly two-thirds of this variation is attributed to nonagricultural uses. Therefore, a land quality index based on raw land prices will be biased, which in turn will result in biased coefficients in a production function or its dual. A cross-section land quality index which excludes the influence of nonagricultural uses is constructed. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 812-19. University of Minnesota.

720 NATURAL RESOURCES

721 Natural Resources

Bolle, Friedel—On the Oligopolistic Extraction of Non-renewable Common-Pool Resources

In recent literature the extraction of common-pool resources has been discussed under the aspect of whether or not they can be used efficiently when a finite number of agents has access to the resource. The objective of this paper is the derivation of a necessary equilibrium condition in a simple model. This condi-

tion has severe consequences for existence propositions in papers of M. C. Kemp and N. V. Long (1980), J. McMillan and H. W. Sinn (1984), and J. F. Reinganum and N. L. Stokey (1985). *Economica*, Nov. 1986, 53(212), pp. 519-27. University of Hamburg.

Cairns, Robert D. and Lasserre, Pierre—Sectoral Supply of Minerals of Varying Quality

In this sectoral model of mineral production, investment in capacity and variation in ore-body grade and volume help explain some stylized facts. More than one grade of ore may be exploited simultaneously. Mine exhaustion, but not necessarily entry, occurs in declining order of grade. The price may rise or fall but is likely to fall initially and must eventually rise, at less than the interest rate unless demand expands rapidly. These trends exhibit fluctuations due to entry and exhaustion of deposits. Resource price cyclicity is reinforced because mines keep producing at capacity when the price is falling. *Scand. J. Econ.*, 1986, 88(4), pp. 605-26. McGill University; University of Montreal.

Chapman, Duane—Computation Techniques for Intertemporal Allocation of Natural Resources

Application of optimal theory to applied problems is limited by the difficulty of numerical solutions. Typically, terminal values for the production period, price, or production level have been assumed rather than optimized. The use of an objective functional with explicit discounting gives direct solution values for the length of the time period, production as a function of time, price as a function of time, and rent (or consumer surplus) for continuous or discrete problems. The method is usable for numerical solutions to problems with linear demand, cost trend, or expropriation risk. It is illustrated with Fisher's widely used discrete problem and with application to parameters representing remaining world oil resources for competitive and monopolistic assumptions. *Amer. J. Agr. Econ.*, Feb. 1987, 69(1), pp. 134-42. Cornell University.

Copes, Parzival—A Critical Review of the Individual Quota as a Device in Fisheries Management

Limited entry licensing, introduced to deal with the common property and open access problems of the fishery, has proven to be an imperfect management device. As an alternative, the individual quota is now being widely advocated as the solution to the fisheries problem. This paper explores a variety of difficulties that should be anticipated with the application of an individual quota regime. It concludes that the individual quota should be considered with caution, as it is not a suitable management device under many common conditions. *Land Econ.*, Aug. 1986, 62(3), pp. 278-91. Simon Fraser University.

Foster, William E., et al.—Distributional Welfare Implications of an Irrigation Water Subsidy

The distributional welfare implications of a subsidy for irrigation water for California rice producers are analyzed. A more general equilibrium approach than that used in previous studies is taken in order to determine the effects of subsidy on consumers, subsidized producers, and unsubsidized producers. The two important policy conclusions of the results are that unsubsidized producers bear part of the cost of a subsidy through lower prices, and that consumers (taxpayers) may gain by sponsoring increased production through a selective subsidy. Coauthors are Linda S. Calvin, Grace M. Johns, and Patricia Rottschaefer. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 778-86. University of California, Berkeley.

Fraser, Robert W.—On the Relationship between Exploration and Extraction

This paper examines the behavior of a risk-neutral mining firm facing resource stock uncertainty. The particular emphasis of the paper is on the relationship between the firm's separate investment in the activities of exploration and extraction. The significance of this relationship is demonstrated in the context of its role in determining the effects of taxation policies on the firm's overall investment. It is thus argued that the evaluation of such policies should incorporate this relationship in order to be well formulated. *Australian Econ. Pap.*, June 1986, 25(46), pp. 135-43. University of Western Australia.

Graham-Tomasi, Theodore; Runge, C. Ford and Hyde, William F.—Foresight and Expectations in Models of Natural Resource Markets

This paper explains the implications of a Keynesian view of asset markets for natural resource policy. It also attempts to clarify some traditional concepts such as option and quasi-option values in light of this perspective. The main conclusion is that when this approach is taken, the task of the resource economist is both complicated and enriched. *Land Econ.*, Aug. 1986, 62(3), pp. 234-49. University of Minnesota; University of Minnesota; Duke University.

Livingston, Marie Leigh and Miller, Thomas A.—A Framework for Analyzing the Impact of Western Instream Water Rights on Choice Domains: Transferability, Externalities and Consumptive Use

Instream water rights have been legitimized in several Western states and the issue is being debated in others. Serious questions have been raised concerning the impact of instream water rights on the water rights system in general and the resulting implications for water allocation. This paper introduces a framework for analyzing the impact of instream water rights on (1) the transferability of existing rights, (2) the incidence of external costs and benefits, and (3) changes in the level of total consumptive use. When applied to site-specific cases, the model is useful in evaluating the economic trade-offs involved in changing the structure of water rights. *Land Econ.*, Aug. 1986, 62(3), pp. 269-77. University of Northern Colorado and U.S.D.A.; Colorado State University.

Long, Ngo Van and Sinn, Hans-Werner—Surprise Price Shifts, Tax Changes and Supply Behaviour of Resource Extracting Firms

It is shown that a surprise increase in the current price (due to, say, a change in the tariff rate) may cause a resource firm to increase or decrease its current rate of extraction, depending on its expectation of future changes in the price. The key parameters are the rate of price change in the absence of the surprise shock, the rate of interest, and the rate of change of the tax rates. *Australian Econ. Pap.*, Dec. 1985,

24(45), pp. 278-89. Australian National University; University of Munich.

Matulich, Scott C. and Hanson, Jeffrey E.—Modeling Supply Response in Bioeconomic Research: An Example from Wildlife Enhancement

This paper provides an overview of a problem endemic to bioeconomic analysis and environmental policy formulation: the absence of suitable biological data to derive econometrically specified biophysical response surfaces and associated cost functions. The analytical framework and empirical model presented in this paper illustrate a pragmatic, interim approach to piecing together response surface information and cost functions from available data and expert opinion. A biological simulation model is combined with a nonlinear programming model to evaluate alternative wildlife enhancement plans in a proposed irrigation project. *Land Econ.*, Aug. 1986, 62(3), pp. 292-305. Washington State University.

Plummer, Mark L.—Supply Uncertainty, Option Price, and Option Value: An Extension

In this article, the author extends previous work by A. M. Freeman (1985) in analyzing the value of a change in the probability that a public good will be supplied. It is shown that the sign of "supply-side" option value, the difference between the option price and the expected consumer surplus associated with the probability change, depends on the relation between the marginal utility of income and the provision of the public good. In addition, as first established by Freeman, the addition of demand-side uncertainty exacerbates a potential ambiguity in the sign of option value. *Land Econ.*, Aug. 1986, 62(3), pp. 313-18. Federal Trade Commission.

Toman, Michael A.—"Depletion Effects" and Nonrenewable Resource Supply: A Diagrammatic Exposition

While the theory of nonrenewable resource supply has advanced significantly in the past few years, studies based on the narrow "r percent rule" model of supply behavior continue to appear. This paper presents a simple diagrammatic exposition of nonrenewable resource

supply theory that incorporates advances in the theory beyond the r percent rule. The diagrammatic framework emphasizes economic resource scarcity stemming from the influence of depletion on costs; the influence of dynamic "user costs" that reflect this scarcity on supply decisions; and interactions between decisions to extract from and add to reserves. The framework is intended to provide fresh insights to those conversant with mathematical versions of the broader theory and to make this theory more accessible to nonexperts. *Land Econ.*, Nov. 1986, 62(4), pp. 341-52. Resources for the Future, Washington, D.C.

Young, Robert A.; Daubert, John T. and Morel-Seytoux, Hubert J.—Evaluating Institutional Alternatives for Managing an Interrelated Stream-Aquifer System

Farmers relying on the South Platte River in northeastern Colorado for irrigation water have been found to be adversely affected by pumping from a groundwater deposit associated with the river. A simulation model of the hydrologic-legal-farmer decision system is developed and employed to analyze several institutional alternatives for managing the system. The "argumentation plan" approach recently developed by the state was shown to yield highest net incomes under both normal water supply and drought scenarios while protecting the prior rights of river water users. Anticipated opportunity costs of ground water use are internalized into pumpers' decisions. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 787-97. Colorado State University; Farm Credit Bank of Omaha; Colorado State University.

722 Conservation and Pollution

Adams, Richard M.; Hamilton, Scott A. and McCarl, Bruce A.—The Benefits of Pollution Control: The Case of Ozone and U.S. Agriculture

The adverse effects of ozone and other air pollutants on crop yields are well documented. This paper reports on an assessment of the benefits to agriculture arising from reductions in ambient ozone pollution. Estimates are derived using recent plant science data as input for a spatial equilibrium model of U.S. agriculture. A sensitivity of benefit estimates to biological and

economic sources of uncertainty is also investigated. Results suggest that the benefits of a 25 percent reduction in ambient ozone are substantial, amounting to \$1.7 billion. The robustness of these estimates varies across alternative assumptions concerning response data and export markets. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 886-93. Oregon State University; Northwest Economic Associates; Texas A&M University.

Batie, Sandra S. and Sappington, Alyson G.—Cross-compliance As a Soil Conservation Strategy: A Case Study

The financial impacts of a hypothetical cross-compliance program were estimated for seventy-six farmers in Gibson County, Tennessee. Several federal program benefits were compared to the least-cost method of achieving one of four different soil displacement limits to determine if the costs of voluntarily participating in a cross-compliance program were greater than the benefits. If cost sharing were available, farmers would have a positive incentive to cross comply to five tons per acre per year on 57.3 percent of all fields. This figure rises to 90.9 percent compliance at twenty tons per acre per year. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 880-85. Virginia Polytechnic Institute and State University; Louisa Feed Service, Virginia.

Kolstad, Charles D.—Empirical Properties of Economic Incentives and Command-and-Control Regulations for Air Pollution Control

Three fundamental issues appear to permeate the literature on the relative desirability of environmental regulations. One is the performance of economic incentives relative to command-and-control regulations. Within the class of economic incentives, there is the question of price controls (emission fees) versus quantity controls (marketable emission permits). A third issue concerns the spatial resolution of incentives. The purpose of this paper is to contribute empirical insight on these three issues through a case study of the "Four Corners" region of the Southwest United States. The authors present a model of regulatory design and industrial response for a variety of air pollution regulations and measure the welfare differences among reg-

ulations in this applied setting. *Land Econ.*, Aug. 1986, 62(3), pp. 250-68. University of Illinois.

Livingston, Marie Leigh—Evaluating the Performance of Environmental Policy: Contributions of Neoclassical, Public Choice and Institutional Models

Three schools of thought are analyzed in terms of their proficiency in evaluating environmental policy. Neoclassical economics is not designed to compare alternative policies; institutions are assumed to be fixed. While the public choice model has descriptive relevance, the concept of efficient institutional change is seriously flawed and without concrete means to evaluate institutional alternatives. Institutional theory contains normative principles (notably problem solving and diversity) that are useful in identifying strengths and weaknesses in environmental policy. On these grounds the Environmental Impact Statement process is criticized in terms of institutionalized polarization, information misuse, and high decision-making costs. *J. Econ. Issues*, Mar. 1987, 21(1), pp. 281-94. University of Northern Colorado.

Ribaudo, Marc O.—Consideration of Offsite Impacts in Targeting Soil Conservation Programs

The offsite impacts of soil erosion should be considered in targeting regions for soil conservation programs. Regions where a reduction in erosion on agricultural land would improve water quality are identified and compared to regions targeted using onsite criteria. Differences in the regions identified indicate that failure to consider both onsite and offsite impacts may result in inefficient targeting. *Land Econ.*, Nov. 1986, 62(4), pp. 402-11. U.S. Department of Agriculture, Washington, D.C.

Söderbaum, Peter W. O.—Environmental Management: A Non-traditional Approach

The nature of environmental problems suggests that holistic and interdisciplinary approaches to decision making are more fruitful than the "monetary reductionism" of conventional cost-benefit analysis. Among alternative approaches, positional analysis is explored in detail. It suggests a parallel study of monetary

and nonmonetary impacts and resources, and is open also for nonmonetary principles of resource management. Other elements of the approach are systems thinking, a distinction between flows and positions (to clarify irreversibilities and impacts upon future options), and a technique to identify and analyze interests affected. Conclusions are conditional and a more democratic role for the analyst is emphasized. *J. Econ. Issues*, Mar. 1987, 21(1), pp. 139-65. Swedish University of Agricultural Sciences, Uppsala.

723 Energy

Carlevaro, Fabrizio; Chaze, Jean-Paul and Spierer, Charles—Les déterminants de l'évolution annuelle de la consommation d'énergie en Suisse (The Determinants of the Evolution of the Annual Energy Consumption in Switzerland)

This proposes a method to quantify the importance of the factors explaining the evolution of the demand for energy. The method is based on the causal explanation of this demand provided by an econometric model that ties it to a stock of energy-using appliances and its intensity of use. An application to Switzerland, based on the model built at the University of Geneva for the Swiss Federal Energy Office, is presented. This application shows the main role of economic growth and weather conditions on the growth of the energy consumption in 1984. *Schweiz. Z. Volkswirtschaft. Statist.*, Mar. 1987, 123(1), pp. 1-22 (French). University of Geneva.

Train, Kenneth E. and Strebel, Judi E.—Energy Conservation and Rebates in Commercial Food Enterprises

State programs offer rebates to food enterprises for the installation of energy-saving devices. This paper estimates the impact of rebates on the probability of installing a device and the resultant energy saving. Under reasonable ranges for energy costs and rates of return on devices, the benefits of a rebate program, calculated as the value of the energy savings that are attributable to the program, exceed the costs of the program and devices. *Amer. J. Agr. Econ.*, Feb. 1987, 69(1), pp. 106-14.

University of California, Berkeley; University of California, Davis.

800 Manpower; Labor; Population

810 MANPOWER TRAINING AND ALLOCATION; LABOR FORCE AND SUPPLY

811 Manpower Training and Development

Dickinson, Katherine P.; Johnson, Terry R. and West, Richard W.—The Impact of CETA Programs on Components of Participants' Earnings

This paper provides the first estimates of the net impact of CETA participation on the components of CETA participants' post-program earnings. Employing a sample of 1975 CETA enrollees and comparison groups drawn from the March 1978 CPS using a nearest-neighbor matching technique, the authors estimate statistically significant negative effects on men's earnings and statistically significant positive effects on women's earnings. These results stem partly from the impact of CETA participation on the likelihood of being employed after leaving the program and partly on the program's impact on hours worked and wages earned. *Ind. Lab. Relat. Rev.*, Apr. 1987, 40(3), pp. 430-41. SRI International; SRI International; Battelle.

812 Occupation

Noether, Monica—The Growing Supply of Physicians: Has the Market Become More Competitive?

The stock of U.S. physicians at any point in time is modeled as a weighted average of the supply that a perfect cartel would produce and that would prevail under perfect competition. Estimation of a system of stock and income equations over the post-World War II period shows that, after holding constant demand and marginal cost conditions and accounting for gradual adjustment to changes in equilibrium, the weighting parameter has moved toward the competitive extreme since 1965. This rise in the degree of competition is estimated to have increased physician stock by 6 to 20 percent and concomitantly decreased medical incomes by 19 to 45 percent. *J. Lab. Econ.*, Oct. 1986,

700-07 Federal Trade Commission.

Shaw, Kathryn L.—Occupational Change, Employer Change, and the Transferability of Skills

Occupational change is modeled as a function of the individual's current quantity of occupational investment, expected values of future investment in alternative occupations, and the transferability of skills between occupations. Using the National Longitudinal Survey of Young Men, expected present values of income in alternative occupations are calculated as a function of proxies for skill transferability, occupational experience, and investment intensity. These present values are found to be significant determinants of occupational change, particularly for individuals with high employer tenure. These empirical results are a considerable improvement over the modeling of change as a function of age and education. *Southern Econ. J.*, Jan. 1987, 53(3), pp. 702-19. Carnegie-Mellon University.

813 Labor Force

Morton, John D.—BLS Prepares to Broaden Scope of Its White-Collar Pay Survey

This article describes the expansion of the Bureau of Labor Statistics' National Survey of Professional, Administrative, Technical and Clerical Pay (PATC) to include all private services industries and smaller establishments. The expansion of survey coverage over the 1986-87 period will enhance the usefulness of PATC findings for individual occupations and allow more detailed analysis of the effects of employment size and industry on white-collar pay levels. Additionally, the Bureau will conduct test studies in 1987 to develop a broad-based national survey of salaries and benefits of white-collar workers. *Mon. Lab. Rev.*, Mar. 1987, 110(3), pp. 3-7. Bureau of Labor Statistics.

Ransom, Michael R.—The Labor Supply of Married Men: A Switching Regressions Model

According to the family utility function approach, the labor supply functions of married men should differ according to whether their wives also work. In this paper the author explicitly models the switching nature of labor supply while also accounting for the endogeneity of

the labor force participation decision of the wife, using an endogenous switching regressions model based on the quadratic family utility function. The model is estimated from a cross section of 1,210 married couples from the Panel Study of Income Dynamics. *J. Lab. Econ.*, Jan. 1987, 5(1), pp. 63-75. University of Arizona.

Ross, Russell T.—Analysis of the 1980 Sydney Survey of Work Patterns of Married Women: Further Results

Labor force participation, hours of work, and wage functions (reservation wage as well as market wage) are estimated in a second-generation static labor supply framework. Unique features of the study include the availability of direct data on previous market experience, a formulation of the impact of children on the participation decision which permits testing for the presence of economies of scale in childminding activities, estimation of the reservation wage function, and a data base which permits a clear distinction between earnings and other forms of income. *Econ. Rec.*, Sept. 1986, 62(178), pp. 325-37. University of Sydney.

820 LABOR MARKETS; PUBLIC POLICY

821 Labor Economics

Abowd, John M. and Card, David—Intertemporal Labor Supply and Long-Term Employment Contracts

The authors compare the implications of a symmetric information contracting model and a dynamic labor supply model for changes in earnings and hours. A simple test is whether earnings changes are more variable than hours changes, as predicted by the labor supply model, or less variable, as predicted by the contracting model. The authors apply this test to two longitudinal surveys of adult men and find that earnings are somewhat more variable than hours for men who never change employers. The estimates suggest that changes in earnings and hours not associated with survey measurement error occur at fixed wage rates. *Amer. Econ. Rev.*, Mar. 1987, 77(1), pp. 50-68. Princeton University.

Adams, James D.—Intertemporal Wage Variation, Employment, and Unemployment

A model of labor supply under uncertainty is developed, and comparative statics of current labor are carried out with respect to temporary and persistent wage change. This and a complementary analysis of measurement error suggest that individual wage growth leads to downward-biased estimates of intertemporal labor substitution. An alternative strategy, namely, the use of short-lived industry wage pulses in place of individual wage growth, is free of the above biases. Findings presented in the paper support this point of view. These results also suggest that intertemporal substitution has been undervalued as a source of cyclical changes in unemployment. *J. Lab. Econ.*, Jan. 1987, 5(1), pp. 106-29. University of Florida.

Berkovitch, Elazar—Implicit Labor Contracts to Explain Turnover

Aggregate data exhibit procyclical movement in the rate of turnover. However, existing models of turnover have been unable to explain this phenomenon. In this model the author generates turnover as an outcome of a second-best wage contract when there is asymmetry of information about workers' mobility costs. A wage contract that insures the "bad" ("unlucky") workers results in "good" ("lucky") workers earning less than their marginal productivity. Therefore, good workers with low mobility costs leave the firm for the spot market wage. This, combined with an aggregate shock, results in a procyclical rate of turnover. *J. Lab. Econ.*, Pt. 1, July 1986, 4(3), pp. 341-54. Northwestern University.

Bulow, Jeremy I. and Summers, Lawrence H.—A Theory of Dual Labor Markets with Application to Industrial Policy, Discrimination, and Keynesian Unemployment

This paper develops a model of dual labor markets based on employers' need to motivate workers. In order to elicit effort from their workers, employers may find it optimal to pay more than the going wage. This changes fundamentally the character of labor markets. The model is applied to a wide range of labor market phenomena. It provides a coherent framework for understanding the claims of industrial policy advocates. It also can provide the basis for a theory of occupational segregation and discrimination that will not be eroded by market forces.

Finally, the model provides the basis for a theory of involuntary unemployment. *J. Lab. Econ.*, Pt. 1, July 1986, 4(3), pp. 376-414. Stanford University and National Bureau of Economic Research; Harvard University and National Bureau of Economic Research.

Carmichael, H. Lorne—Reputations for Safety: Market Performance and Policy Remedies

This paper examines the provision of industrial safety in a competitive labor market under the assumption that it takes time for workers to learn about changes in safety levels at a firm. It is shown that safety will in general be underprovided and that in some cases government-enforced workmen's compensation can bring improvements. The results hold even though in equilibrium all workers are perfectly informed about the level of safety prevailing at each firm and each is free to move to any firm he likes. *J. Lab. Econ.*, Oct. 1986, 4(4), pp. 458-72. Queen's University.

Coles, Jeffrey L.—Nonconvexity in General Equilibrium Labor Markets

The classic case of nonconvexity in consumer opportunities is that of labor supply. While most studies of labor supply concentrate on the individual agent in partial equilibrium, this study considers general equilibrium. The author shows that even with nonconvex consumer opportunities, such as those involved in the labor supply decision, the standard theorems of general equilibrium models still hold. *J. Lab. Econ.*, Pt. 1, July 1986, 4(3), pp. 415-37. University of Utah.

Dasgupta, Partha and Ray, Debraj—Inequality as a Determinant of Malnutrition and Unemployment: Policy

This paper explores the policy implications that are obtained once it is recognized that at low nutrition intakes a person's "productivity" is an increasing function of intake. In the context of a fully general equilibrium model it is shown that if aggregate assets in an economy are neither large nor small, certain patterns of Lorenz improving asset redistributions (or nutrition transfers) increase aggregate output and reduce the volume of involuntary unemployment and the incidence of undernourishment.

Econ. J., Mar. 1987, 97(385), pp. 177-88. University of Cambridge; Indian Statistical Institute.

Gramm, Warren S.—Labor, Work, and Leisure: Human Well-Being and the Optimal Allocation of Time

Analysis is based on interrelationships between levels of well-being, the substance of consciousness, and a labor-work-leisure ratio. Employing the polar opposite relationship, each continuum reflects economic and social progress in historic-cultural movement from subsistence society based on physical labor, with consciousness dominated by material necessities, toward the "high-consumption" society that incorporates (intellect) work and "creative leasures" with consciousness reoriented to the "art of living." Argument builds on Abraham Maslow's hierarchy of motivation; differentiation between production and consumption of necessities, amenities, and luxury goods; J. S. Mill's stationary state; and strands of utopian thought. *J. Econ. Issues*, Mar. 1987, 21(1), pp. 167-88. Washington State University.

Hahn, F. H.—On Involuntary Unemployment

This paper argues that on a proper definition of equilibrium "involuntary unemployment equilibrium" is a logically coherent concept. It then proposes two alternative routes of modeling the labor market (efficiency wage and "fairness") which allows an equilibrium with involuntary unemployment. *Econ. J.*, Supp. 1987, 97, pp. 1-16. University of Cambridge.

Haltiwanger, John and Waldman, Michael—Insurance and Labor Market Contracting: An Analysis of the Capital Market Assumption

In recent years a large literature has developed that investigates the role of insurance in labor market contracting. Papers in this literature typically assume that workers are completely restricted from borrowing. The authors argue, and to some extent demonstrate, that in many environments capital market imperfections do not lead to a no-borrowing result, rather to a capital market assumption intermediate between the no-borrowing assumption and the perfect capital market assumptions. The authors consider some of the ramifications that

this intermediate capital market assumption has on the type of insurance firms provide through the labor market contract. *J. Lab. Econ.*, Pt. 1, July 1986, 4(3), pp. 355-75. University of California, Los Angeles.

Holmlund, Bertil—Centralised Wage Setting, Wage Drift and Stabilisation Policies under Trade Unionism

This paper analyzes union behavior in a model with uncertainty about aggregate labor demand. When uncertainty is resolved, the labor market may be in excess demand or excess supply at the preset contractual wage. Wage drift occurs if excess demand is realized and the union's wage demand takes this into account. Stabilization policy involves government hirings in good times and firings in bad ones. Public employment expansion in slumps increases the union's wage demand. More surprisingly, a contraction of public employment in good times will also produce a higher contractual wage. *Oxford Econ. Pap.*, July 1986, 38(2), pp. 243-58. FIEF, Stockholm.

Hosios, Arthur J.—Layoffs, Recruitment, and Interfirm Mobility

Contract and search theories are integrated to provide a consistent explanation of contract formation, the intertemporal structure of labor markets, the absence of *ex post* clearing, and thus of unemployment in a contractual setting. Self-fulfilling equilibria are described in which low-productivity firms lay off some workers, while high-productivity firms' recruitment (search) intensity and the resulting degree of interfirm mobility are endogenous. The effects of severance pay on layoffs and mobility are identified. Finally, the market economy is shown to generate too few layoffs whenever high-productivity firms recruit new hires: without recruitment, laid-off workers are immobile and equilibrium is constrained efficient. *J. Lab. Econ.*, Oct. 1986, 4(4), pp. 473-502. University of Toronto.

Howitt, Peter and McAfee, R. Preston—Costly Search and Recruiting

A labor market model with costly search and recruiting is constructed. It incorporates many features found in other models and provides

new insights into the effects of externalities and transaction costs. The model possesses a continuum of equilibria, some of which may be Pareto-ranked, with different rates of unemployment. Despite the multiplicity of equilibria, comparative-statics results are obtained. *Int. Econ. Rev.*, Feb. 1987, 28(1), pp. 89-107. University of Western Ontario.

Hutchens, Robert—Delayed Payment Contracts and a Firm's Propensity to Hire Older Workers

There are jobs for which firms employ older workers but tend not to hire new older workers. This may be attributable in part to implicit contracts that discourage worker shirking and malfeasance by shifting compensation to the end of the contract. Such "delayed payment" contracts can introduce a form of fixed costs into the employment relationship. Much as with hiring and training costs, these fixed costs lead firms to hire primarily young (long-term) workers. While firms employ older workers—workers who are serving out the last years of their contract—they tend not to hire them. This paper presents empirical evidence that is consistent with this argument. *J. Lab. Econ.*, Oct. 1986, 4(4), pp. 439-57. Cornell University.

Johnes, Geraint—Error Removal, Loss Reduction and External Effects in the Theory of Strikes

Four theories of industrial stoppages are presented, which rationalize strikes by reference to improvements in information flows, direct pecuniary incentives to firms, and externality effects. The implications of the different models for patterns of bargaining and final settlements are derived, and policies appropriate for the resolution of each type of strike are discussed. *Australian Econ. Pap.*, Dec. 1985, 24(45), pp. 310-25. University of Lancaster.

Lang, Kevin—Pareto Improving Minimum Wage Laws

By increasing the expected wage in low skill jobs, a minimum wage law can reduce the incentive for low skill workers to imitate high skill workers in the signaling process. The gain from reduced investment in the signal can more than offset the loss from unemployment among

low skill workers so that total output increases. Moreover, with an appropriate poll tax on workers to compensate owners of capital, the law can make all workers and owners of capital better off. *Econ. Inquiry*, Jan. 1987, 25(1), pp. 145-58. University of California, Irvine.

Pissarides, Christopher A.—Trade Unions and the Efficiency of the Natural Rate of Unemployment

Decentralized wage setting in search equilibrium models is inefficient because the meeting firm and worker ignore the dependence of job-matching probabilities on the number of firms and worker engaged in search. This paper investigates whether risk-neutral monopolistic unions will have an incentive to internalize this externality. The author finds that the externality will be internalized only if the union's policy is chosen by unemployed persons. If employed persons influence union policy, both the union wage and unemployment will be too high. A tax on the union wage, combined with an employment subsidy to firms, can correct this inefficiency. *J. Lab. Econ.*, Oct. 1986, 4(4), pp. 582-95. London School of Economics.

Shaffer, Sherrill L.—An Alternative Theory of Upward Sloping Age-Earnings Profiles

The commonly observed increase of wages with experience cannot be entirely explained by increases in individual productivity over time. Several possible explanations of this fact have been advanced in the literature; this paper presents another. The Samuelsonian model (1975) of an unfunded social security system is adapted to show that, in an industry or sector with sufficient growth, there is an incentive for implicit transfers from junior or senior workers. Also discussed are possible market responses when growth rates turn negative. *Australian Econ. Pap.*, June 1988, 25(46), pp. 118-21. Federal Reserve Bank of New York.

Sparks, Roger—A Model of Involuntary Unemployment and Wage Rigidity: Worker Incentives and the Threat of Dismissal

This paper analyzes a model that highlights imperfect monitoring and the threat of dismissal as microeconomic underpinnings for the efficiency-wage hypothesis. The author's major in-

novation is to allow the rules for dismissal, as well as the wage, to be determined endogenously as the equilibrium of a Stackelberg game played between firms and workers. The key results are as follows: a nontrivial equilibrium (where positive output is produced) must involve involuntary unemployment in that employed workers are strictly better off than are the unemployed; in addition, the equilibrium wage is rigid with respect to exogenous shifts in productivity. *J. Lab. Econ.*, Oct. 1986, 4(4), pp. 560-81. Purdue University and University of Essex.

Strand, Jon—The Relationship between Wages and Firm Size: An Information Theoretic Analysis

The paper derives a positive relationship between the size of establishments and their average wage levels, together with a continuous wage distribution, from a model where firm sizes are endogenous. A fraction of the workers are imperfectly informed from friends about firms' wage strategies and the rest search among firms at random. The greater the share of workers that are informed, the higher is the average wage level and the smaller is the difference between firms' wage levels. Costly interfirm labor mobility is in general shown to be socially excessive. *Int. Econ. Rev.*, Feb. 1987, 28(1), pp. 51-68. University of Oslo.

Taylor, Mark P.—The Simple Analytics of Implicit Labour Contracts

This paper outlines the development and expounds some of the central ideas of implicit contract theory using only basic mathematics (mainly Lagrangeans) and diagrams. *Bull. Econ. Res.*, Jan. 1987, 39(1), pp. 1-27. Bank of England, London.

822 Public Policy; Role of Government

Borba, Philip S. and Appel, David—The Propensity of Permanently Disabled Workers to Hire Lawyers

Although a major objective of workers' compensation insurance is to reduce financial and legal uncertainties, a significant proportion of workers' compensation claimants with permanent injuries contest the benefit award. This analysis of a sample of 1,060 California workers

with permanent injuries suggests that educational level, union membership, the seriousness of the injury, and the availability to the injured worker of additional sources of income are all positively related to the propensity to hire an attorney. Also, injured workers satisfied with the employer's and insurer's handling of the claim apparently are less likely than other workers to hire an attorney. *Ind. Lab. Relat. Rev.*, Apr. 1987, 40(3), pp. 418-29. National Council on Compensation Insurance, New York.

Nelson, Richard R.—State Labor Legislation Enacted in 1986

This annual article summarizes labor legislation enacted during 1986, by jurisdiction. Laws were enacted in many traditional labor fields, including minimum wage protection, collection of unpaid wages, child labor, collective bargaining, and employment discrimination. Important legislation was also adopted involving whistleblower protection, prohibitions on the employment of illegal aliens, asbestos abatement, and the emerging issues of regulation of workplace smoking and testing employees for drugs and AIDS. *Mon. Lab. Rev.*, Jan. 1987, 110(1), pp. 49-66. Bureau of Labor Statistics.

Schumann, Richard E.—State and Local Government Pay Increases Outpace Five-Year Rise in Private Industry

Based on the Bureau of Labor Statistics' Employment Cost Index, wages and salaries increased by 36 percent in state and local governments, while pay in the private sector increased 27.9 percent during June 1981-86. Much of the difference in the size of wage changes between the two sectors can be explained by differences in the industrial and occupational composition of their work forces. The industrial and occupational groups which had the largest pay gains accounted for a higher proportion of employment in state and local government than in private industry. Over the last eleven years, however, pay probably increased by about the same percentage in the two sectors. *Mon. Lab. Rev.*, Feb. 1987, 110(2), pp. 18-20. Bureau of Labor Statistics.

Smith, Robert Stewart—Greasing the Squeaky Wheel: The Relative Productivity of OSHA Complaint Inspections

This paper questions the validity of allegations by the General Accounting Office in 1979 that OSHA was then allocating more of its resources to investigating worker complaints than the quality of those complaints warranted. Specifically, the author finds that complaint-initiated inspections and "general schedule" inspections (those made on the basis of targeting criteria developed by OSHA) were similarly productive in uncovering safety violations in 1977-79. The findings also suggest that the interindustry distribution of complaints closely matched the distribution of general schedule inspections, and complaints were not used by unionized workers as a weapon in negotiations. *Ind. Lab. Relat. Rev.*, Oct. 1986, 40(1), pp. 35-47. Cornell University.

823 Labor Mobility; National and International Migration

Borjas, George J.—Immigrants, Minorities, and Labor Market Competition

This paper investigates the extent of labor market competition among immigrants, minorities, and the native population. An analysis of 1980 U.S. Census data reveals that immigrants tend to be substitutes for some labor market groups and complements for others. The effects of shifts in immigrant supply on the earnings of native-born men are, however, very small. On the other hand, increases in the supply of immigrants do have a sizable impact on the earnings of immigrants themselves: an increase of 10 percent in the supply of immigrants, for example, reduces the immigrant wage by about 10 percent. *Ind. Lab. Relat. Rev.*, Apr. 1987, 40(3), pp. 382-92. University of California, Santa Barbara and National Bureau of Economic Research.

Cymrot, Donald J. and Dunlevy, James A.—Are Free Agents Perspicacious Peregrinators?

The perspicacious peregrinator model of Solomon W. Polachek and Francis W. Horvath hypothesizes that individuals decide to migrate based on the size of potential gains. This model is tested using the migration decisions of Major League Baseball players between 1977 and 1979. Potential gains are measured as the differ-

ence between earnings with and without migration. A distinction is made between players eligible for free agency and those ineligible so as to account for differences in the level of competition for players' services in different segments of this market. Migration is found to be related to the expected gain from earnings for players eligible for free agency, but not for those ineligible. *Rev. Econ. Statist.*, Feb. 1987, 69(1), pp. 50-58. Center for Naval Analyses, Alexandria, Virginia; Miami University, Oxford, Ohio.

Straubhaar, Thomas—The Determinants of Workers' Remittances: The Case of Turkey

This article examines the effectiveness of Turkish policies to attract emigrants' remittances from West Germany towards Turkey in the period 1963-1982. The empirical model reveals that incentives to attract remittances have not been very successful. Neither variations in exchange rates (i.e., premium exchange rates) nor changes in the real return of investments (i.e., foreign exchange deposits with higher returns) affected the flows of remittances toward Turkey, and the actual flow depended more on political stability than economic benefits. *Weltwirtsch. Arch.* 1986, 122(4), pp. 728-40. University of California, Berkeley.

884 Labor Market Studies, Wages, Employment

Anderson, Kathryn H.; Butler, John S. and Sloan, Frank A.—Labor Market Segmentation: A Cluster Analysis of Job Groupings and Barriers to Entry

Labor market segmentation is analyzed using data from the University of Michigan Panel Study of Income Dynamics. Indices of job traits are created using GLS regressions of job characteristics on industry, occupation, and demographic variables. A job is defined as a two-digit industry-occupation. Indices are used to choose the clusters of jobs with cluster analysis. Using a parametric test developed to determine when to stop agglomerating clusters, one large and one small job cluster were detected. A statistical test could not reject the hypothesis that the two clusters differed only randomly. No statistical evidence is found of a segmented labor market. *Southern Econ. J.*, Jan. 1987, 53(3), pp. 871-90. Vanderbilt University.

Andrews, Martyn J.—The Aggregate Labour Market: An Empirical Investigation into Market-Clearing for the UK

A two-equation model of the aggregate labor market is presented as part of a larger market-clearing macroeconomic framework, which is then estimated by a suitable subsystem estimator using annual data for the U.K., 1948-1979. Taken on their own theory—consistent estimates of both labor supply and labor demand are obtained. The maintained hypothesis that the market clears cannot be tested against a more general structural model within the framework presented; however, a test of the model against the data generation process suggests that the maintained hypothesis is untenable after 1966, which is confirmed by evidence of dynamic instability. *Econ. J.*, Mar. 1987, 97(385), pp. 157-76. ESRC Macroeconomic Modelling Bureau, University of Warwick.

Andrews, Martyn and Nickell, Stephen J.—A Disaggregated Disequilibrium Model of the Labour Market

This paper analyzes a number of disequilibrium models of the labor market. The most general of these assumes that the aggregate market consists of a series of submarkets, none of which are in excess demand, with the remainder being in excess supply. Assuming demands and supplies have a common structure across markets, with a normal error, then it is possible to write aggregate employment as a nonlinear function of the common structure and the parameters of the error distribution. Estimates of this model and various restricted versions of it are presented, including the standard run condition model and the equilibrium model. *Oxford Econ. Pap.*, Nov. 1986, 38(3), pp. 386-402. Warwick University; Oxford University.

Atkinson, Scott E. and Tschirhart, John—Flexible Modelling of Time to Failure in Risky Careers

Failure time models correcting for heterogeneity are used to explain the length of participation in a risky career. Using data from the National Football League, the authors first employ a class of techniques which ignore unobserved heterogeneity; hence these methods impose severe restrictions on the estimated

hazard. The authors then examine a second class of techniques which correct for unobservables and thereby allow greater flexibility in the estimated hazard. Within this second class, they find that the estimated hazard using the Burr-12 density is much more accurate than densities in the first class, which include the exponential and Weibull. They expect that this density could be employed to successfully explain career duration in other high-risk, high-stress careers as well. *Rev. Econ. Statist.*, Nov. 1986, 68(4), pp. 558-66. University of Georgia; University of Wyoming.

Barron, John M.; Black, Dan A. and Loewenstein, Mark A.—Employer Size: The Implications for Search, Training, Capital Investment, Starting Wages, and Wage Growth

An employer must choose a procedure for screening job applicants, a rate of hire, a training program for new employees, a criterion for the retention of new employees after observing their on-the-job performance, a compensation package, and a rate of capital investment so as to minimize production costs across time. This paper examines the effects of employer size on these hiring and training decisions when larger employers have greater monitoring costs. A unique data set is employed to estimate the empirical relation among employer size and employer search, training, capital investment, and wages. *J. Lab. Econ.*, Jan. 1987, 5(1), pp. 76-89. Purdue University; University of Kentucky; Virginia Polytechnic Institute and State University.

Bartel, Ann P. and Lichtenberg, Frank R.—The Comparative Advantage of Educated Workers in Implementing New Technology

The authors estimate labor demand equations derived from a (restricted variable) cost function in which "experience" on a technology (proxied by the mean age of the capital stock) enters "non-neutrally." The specification of the underlying cost function is based on the hypothesis that highly educated workers have a comparative advantage with respect to the adjustment to, and implementation of, new technologies. The empirical results are consistent with the implication of this hypothesis, that the relative demand for educated workers declines as the

ages of plant and (particularly) of equipment increase, especially in R&D-intensive industries. *Rev. Econ. Statist.*, Feb. 1987, 69(1), pp. 1-11. Columbia University.

Beach, Charles M. and Kaliski, S. F.—The Distribution of Unemployment Spells: Canada, 1978-82

This paper empirically examines entire distributions of unemployment spells according to a novel duration-share approach based on decile shares and Lorenz curves of unemployment. The approach is applied to a Canadian micro-data source akin to the Work Experience Surveys for the United States. Long-term unemployment accounts for a substantial portion of total weeks of unemployment, despite the short duration of the average spell of unemployment, and the structure of unemployment spell distribution differs significantly by gender, age, education, and region. *Ind. Lab. Relat. Rev.*, Jan. 1987, 40(2), pp. 254-67. Queen's University.

Blundell, Richard; Ham, John and Meghir, Costas—Unemployment and Female Labour Supply

The definition of labor force participation in the standard labor supply model stands in sharp contrast to that used in compiling the labor force statistics. In standard labor supply models, only those supplying positive hours of work are considered to be labor force participants. On the other hand, participation in the labor force statistics is often defined to include not only those supplying positive hours but also those actively searching for work. This paper is an attempt to reconcile these concepts and turns out to be a convenient way to enter demand side factors. The model is applied to the working behavior of married women in the U.K. Family Expenditure Survey. *Econ. J.*, Supp. 1987, 97, pp. 44-64. University College, London; University of Toronto; University College, London.

Brooks, Clive and Volker, Paul—The Probability of Leaving Unemployment: The Influence of Duration, Destination and Demographics

This paper examines the influences of a number of demographic characteristics and the duration of unemployment on the probability of

leaving unemployment. This probability is found to decrease as the duration of unemployment increases, with married females having the highest probability of exit. Various measures of average completed duration suggest that the longest spells of unemployment are incurred by older males. Some relevant considerations are also explored in the paper. *Econ. Rec.*, Sept. 1986, 62(178), pp. 296-309. Bureau of Labour Market Research, Canberra, Australia.

Brown, Martin and Philips, Peter—*Competition, Racism, and Hiring Practices among California Manufacturers, 1860-1882*

This paper examines Chinese men's participation in four California industries in the late 1800s to determine the relationship between product market structure and racist hiring practices. Because white women, a traditional source of cheap labor, were scarce in post-Gold Rush California white employers hired Chinese men, despite widespread anti-Chinese racism. As white women became plentiful, the canning and woolen mills industries began to switch to them, whereas the more competitive shoe and cigar industries continued to employ Chinese men. Factors other than market structure, however, resulted in particularly virulent anti-Chinese attitudes in the more competitive industries. *Ind. Lab. Relat. Rev.*, Oct. 1986, 40(1), pp. 61-74. Howard University; University of Utah.

Card, David—*Efficient Contracts with Costly Adjustment: Short run Employment Determination for Airline Mechanics*

This paper presents an empirical analysis of firm-specific employment and wage outcomes for mechanics in the domestic airlines industry. A dynamic contracting model is presented that incorporates both costly employment adjustment and potential gaps between contract wage rates and the opportunity value of workers' time. The model gives a useful description of the employment-output linkage in the data, but is less successful in capturing the dynamic relation between employment, contract wage rates, and wage rates outside the airline industry. *Amer. Econ. Rev.*, Dec. 1986, 76(5), pp. 1045-71. Princeton University.

Chapman, Bruce J.—*Sex and Location Differences in Wages in the Australian Public Service*

An empirical investigation of wage determination in the Australian Public Service (APS) over the 1970s is undertaken, revealing that persons employed in Canberra, and males generally, experienced salary advantages. The technique employed controls for education and length of time in both the labor force and the APS, and analyzes the same group of workers in 1969, 1974, and 1979. The location result did not vary substantially over the decade, but the female disadvantage was somewhat reduced from 1969 to 1974. It is demonstrated theoretically that the use of the variable length of time in the labor force biases upwards the estimate of the male salary advantage, but a test of the proposition shows that measurement error of this type does not markedly affect conclusions. *Australian Econ. Pap.*, Dec. 1985, 24(45), pp. 296-309. Australian National University.

Cohany, Sharon R.—*Labor Force Status of Vietnam-Era Veterans*

In 1985, data were collected for the first time on the labor force status of men who actually served in Southeast Asia, distinguishing between those with and without service-connected disabilities. The data confirm the precarious circumstances of disabled veterans, who were especially vulnerable to unemployment. The information is based on the Current Population Survey. In a supplement to the April 1985 survey, men eighteen and older were asked about their service in the Armed Forces and whether they had a service-connected disability. The supplement was cosponsored by the Veterans Administration and the two Department of Labor agencies—the Veterans Employment and Training Service and BLS. *Mon. Lab. Rev.*, Feb. 1987, 110(2), pp. 11-17. Bureau of Labor Statistics.

Córdova, Efrén—*From Full-time Wage Employment to Atypical Employment: A Major Shift in the Evolution of Labour Relations?*

Many observers are concerned that the steady increase in atypical forms of employment that dispense with contracts normally concluded under ordinary law may threaten the

principles that have governed labor relations up to now and give rise to a proliferation of unregulated employment situations that will undermine the traditional system. Of equal concern is the fragile, provisional, and precarious nature of atypical forms of employment, with all that this implies for the worker. The author analyzes the changes taking place in the traditional model, their causes, the controversies they have created, and their repercussions on individual and collective labor relations and on social security. *Int. Lab. Rev.*, Nov.-Dec. 1986, 125(6), pp. 641-57. International Labor Office.

Dolton, P. J. and Makepeace, G. H.—Sample Selection and Male-Female Earnings Differentials in the Graduate Labour Market

The standard approach to measuring earnings differentials is extended to include a female participation decision, and the effects of sample selection are analyzed. A substantial proportion of the earnings differential between men and women in the U.K. graduate labor market can be attributed to residual factors rather than attributes and characteristics. Women's earnings could be as much as 18 percent higher if these factors were removed. A statistically significant sample selection effect is present, but its quantitative impact on the measures of the residual differential is variable. The data are sufficiently comprehensive to justify wider academic interest. *Oxford Econ. Pap.*, July 1986, 38(2), pp. 317-41. University of Hull.

Ehrenberg, Ronald G. and Sherman, Daniel R.—Employment while in College, Academic Achievement, and Postcollege Outcomes: A Summary of Results

This paper uses panel data that cover the 1972-79 period obtained from the National Longitudinal Survey of the High School Class of 1972 to study how male students' employment while in college influences their academic performance, persistence in school, decisions to enroll in graduate school, and postcollege labor market success. Its analytic framework treats in-school employment as endogenous and determines persistence by a comparison of expected utilities. *J. Human Res.*, Winter 1987, 2(1), pp. 1-23. Cornell University; Federal Trade Commission.

Ehrenberg, Ronald G. and Smith, Robert S.—Comparable-Worth Wage Adjustment and Female Employment in the State and Local Sector

This paper simulates the likely effects of a comparable-worth, wage-adjustment policy in the state and local sector on female employment in the sector. The simulation is based on estimates of within-occupation male/female substitution and across-occupation employment substitution obtained using data from the 1980 Census of Population. *J. Lab. Econ.*, Jan. 1987, 5(1), pp. 43-62. Cornell University.

Fuchs, Victor R.—His and Hers: Gender Differences in Work and Income, 1959-1979

This paper describes changes in hours of work and income between 1959 and 1979 of women and men ages 25-64. It includes attempts to measure and value nonmarket production and leisure as well as market work, to take account of possible income sharing within households, and to allow for economies of scale in household production. The most important empirical result is that, relative to men, women's access to goods and services and leisure was lower in 1979 than in 1959. Changes in hourly earnings, hours of work, and household structure contributed to this result. The sex differential in hourly earnings is explored in detail. *J. Lab. Econ.*, Pt. 2, July 1986, 4(3), pp. S245-72. Stanford University and National Bureau of Economic Research.

Goldberg, Matthew S. and Warner, John T.—Military Experience, Civilian Experience, and the Earnings of Veterans

This paper examines the effects of military experience and civilian experience on the earnings of veterans with the objective of determining the substitutability of these two forms of experience for personnel receiving different types of military training. To perform the analysis, the Social Security earnings records of 24,000 individuals who separated from military service in fiscal year 1971 were obtained for the period 1972-77. Analysis of these data reveals that more military experience does increase subsequent civilian earnings, but that the relative impact of military and civilian experience

rience varies considerably by military occupation category. *J. Human Res.*, Winter 1987, 22(1), pp. 62-81. Center for Naval Analyses; Clemson University.

Hersoug, Tor; Kjaer, Knut N. and Rødseth, Asbjørn—Wages, Taxes and the Utility-Maximising Trade Union: A Confrontation with Norwegian Data

This paper estimates a model of wage formation where the central assumptions are: (1) except for a random error term, the aggregate wage level is determined by a single trade union; (2) union utility depends on the real disposable wage and on employment; and (3) firms determine employment and react to wage increases by reducing employment. The purpose is to see whether such a theory can be made operational and whether the model can be made to fit reasonably well with Norwegian data (1962-82). Results are mixed and do not give much support to the approach taken, but several possibilities for further refinement remain. *Oxford Econ. Pap.*, Nov. 1986, 38(3), pp. 403-23. Oslo University.

Inglis, Paul A. and Stromback, Thorsten—Migrants' Unemployment: The Determinants of Employment Success

This paper examines the influence of individual characteristics on the chance of being unemployed. Most of the attention is focused on the characteristics specific to migrants: birthplace, period of residence, and proficiency in the English language. The analysis is based on data from the 1981 Census. A migrant is less likely to be unemployed the longer he has been in Australia. The likelihood of being unemployed falls most during the first two years after arrival for all birthplace groups. Most of the higher unemployment rate for migrants relative to Australian-born is due to the high chance of recently arrived migrants being unemployed. *Econ. Rec.*, Sept. 1986, 62(178), pp. 310-24. Department of Employment and Industrial Relations, Canberra, Australia; Western Australian Institute of Technology, Bentley, Australia.

Maloney, Timothy J.—Employment Constraints and the Labor Supply of Married

Women: A Reexamination of the Added Worker Effect

Little evidence is found to support the "conventional" notion of the added worker effect. The husband's unemployment has no measurable impact on the wife's actual hours of work. However, the constraint on his ability to supply hours of work to the labor market—not simply his unemployment—influences his wife's labor supply. Furthermore, the observed hours of work of the wife may not accurately reflect her "desired" hours of work. The wife's labor supply is found to be positively associated with the unemployment and underemployment of her husband, and this added worker effect is estimated to be quite substantial. *J. Human Res.*, Winter 1987, 22(1), pp. 51-61. University of Missouri.

Butler, Richard J. and McDonald, James B.—Trends in Unemployment Duration Data

A method of estimating the distribution of uninterrupted unemployment spells from aggregate unemployment data is outlined. The methodology does not impose constant individual hazard rates and allows for heterogeneity. Characteristics of the distribution of unemployment spells are then considered including hazard rates, measures of inequality such as Gini coefficients, and the fraction of total unemployment associated with 5 weeks of unemployment. The relationship between these characteristics and labor demand variables (GNP) and supply-side variables (transfer payments, unemployment insurance) is considered in order to better understand the relative role of short- and long-run unemployment. *Rev. Econ. Statist.*, Nov. 1986, 68(4), pp. 545-57. Brigham Young University.

van Opstal, Rocus and Theeuwes, Jules—Duration of Unemployment in the Dutch Youth Labour Market

This paper is concerned with the specification and estimation of a one-state proportional hazard model to explain the duration of unemployment in the Dutch youth labor market. Special attention is given explaining the unequal distribution of unemployment experiences among young labor force participants. The model is estimated using data from a 1984 national ran-

dom sample of young people unemployed in May and interviewed in October/November. It is found that the replacement ratio has no significant effect. The predicted youth wage on the other hand is significant. The paper also presents and compares different functional forms for modeling duration dependence and heterogeneity. *De Economist*, 1986, 134(3), pp. 351-67. Central Planning Bureau, The Hague; Free University, Amsterdam.

Sammartino, Frank J.—The Effect of Health on Retirement

This article analyzes the influence of health on the timing of retirement. After reviewing the specific effects of the amendments on future retirement benefits, it presents a theoretical model of retirement timing that includes the influence of health and the effects of social security benefits. The author then reviews some recent empirical research on the role of health in the retirement decision, explores how health has been measured in these studies, and reviews the research on health and retirement that has explored differences in the effects of health based on occupation, race, and sex. The final section assesses research findings and draws some tentative conclusions. *Soc. Sec. Bull.*, Feb. 1987, 50(2), pp. 31-47. Social Security Administration.

Shank, Susan E. and Haugen, Steven E.—The Employment Situation during 1986: Job Gains Continue, Unemployment Dips

This article provides civilian labor force data by sex, age, and race based on the Current Population Survey, and also provides the number of employees on business payrolls, their average hours, and earnings based on the Current Employment Statistics program. It concludes that the labor market continued to improve in 1986, although at a slower pace than in the first two years of recovery from the 1981-82 recession. Civilian employment rose by about two million each in 1985 and 1986 while the unemployment rate continued to edge downward, reaching 6.9 percent in the second half of 1986. Virtually all of the job gains during 1986 took place in the service-producing sector. *Mon. Lab. Rev.*, Feb. 1987, 110(2), pp. 3-10. Bureau of Labor Statistics.

Slade, Frederic P.—Retirement and State Dependence: A Longitudinal Study of Older Men

This paper examines the role of state dependence in explaining the retirement status of older men. Following from the work of James Heckman and others, apparent and true state dependence are distinguished in a dynamic retirement model. Using a two year longitudinal sample of men aged 58 to 62 in 1969, apparent and true state dependence are controlled for through estimation of an error-components model and a retirement-transition model. The results indicate substantial evidence of state dependence. *J. Lab. Econ.*, Jan. 1987, 5(1), pp. 90-105. Rutgers University.

Trivedi, P. K. and Hui, W. T.—An Empirical Study of Long-Term Unemployment in Australia

The first part of this paper concentrates on modeling transitions out of unemployment using aggregated gross flow data. Models are estimated using monthly transition probabilities for March-April 1984. This analysis produces evidence consistent with negative duration dependence but sheds no light on the role of macroeconomic factors. The second part focuses on this issue. A time-series analysis of the proportion of long-term unemployment, using data for four age and sex groups, provides evidence that a proportionately greater increase in long-term unemployment in Australia in the 1970s has been associated with reduction in job availability. *J. Lab. Econ.*, Jan. 1987, 5(1), pp. 20-42. Australian National University.

825 Productivity Studies: Labor, Capital, and Total Factor

Bemmels, Brian—How Unions Affect Productivity in Manufacturing Plants

This study investigates several hypotheses as to how unions may affect productivity. Analysis of data from forty-six manufacturing plants for 1982 indicates a negative union impact on productivity. The author finds evidence suggesting that unions reduce the effectiveness of some managerial practices undertaken to increase productivity, and that a poor labor-management relations climate also reduces productivity. These two factors account for almost 50

percent of the negative union impact. *Ind. Lab. Relat. Rev.*, Jan. 1987, 40(2), pp. 241-53. University of Alberta.

Estrin, Saul; Jones, Derek C. and Svejnar, Jan—The Productivity Effects of Worker Participation: Producer Cooperatives in Western Economies

The paper presents econometric estimates of productivity effects of various forms of worker participation in Western producer cooperatives. While the effects vary across institutional settings, the overall effect is found to be positive. The positive effects are found most uniformly with respect to profit sharing and, to a slightly lesser extent, individual capital (share) ownership and participation in decision making by workers. The size of individual worker loans to the co-op is unrelated to productivity, while collective capital ownership exhibits an insignificant or a negative productivity effect. *J. Compar. Econ.*, Mar. 1987, 11(1), pp. 40-61. London School of Economics; Hamilton College; University of Pittsburgh.

Ichniowski, Casey—The Effects of Grievance Activity on Productivity

This study develops and tests a production function that includes a plant's grievance filing rate as a determinant of productivity. Application of that function to data on nine unionized paper mills for 1976-82 shows that the more grievances that were filed in a mill, the lower that mill's productivity. Although this effect produced only small percentage changes in the productivity of these mills, these changes, the author argues, could result in much larger percentage changes in the mill's operating profits. Finally, one nonunion mill that had no grievance procedure proved to have significantly lower productivity than the nine union mills. *Ind. Lab. Relat. Rev.*, Oct. 1986, 40(1), pp. 75-89. Columbia University.

Kemme, David M.—Productivity Growth in Polish Industry

Polish economists have long emphasized the need to increase factor productivity and enterprise efficiency to shift from an extensive pattern of development. Both individual and joint

factor productivity at the industrial branch level during the 1960-77 period are examined. Several industrial branches experienced an increase in the rate of growth of joint factor productivity during the mid 1970s. It also appears that coproduction and licensing agreements have contributed to these increases, whereas greater than average growth rates of gross fixed capital had little impact. *J. Compar. Econ.*, Mar. 1987, 11(1), pp. 1-20. Wichita State University.

Kibria, Muhammad G. and Tisdell, Clement A.—Productivity Progress Parameters for Manufacturing in an LDC: The Startup or Learning Phase in Bangladesh Jute Mills

Uses power functions and linear ratio functions to measure productivity progress attributable to learning as a time-dependent phenomenon in the startup phase of spinning and weaving processes in individual Bangladeshi jute mills. In so doing, it provides evidence on the importance of learning-by-doing in manufacturing in an LDC, namely in the production of heavy and light yarn and in the manufacture of sacking and hessian in Bangladesh. *Australian Econ. Pap.*, Dec. 1985, 24(45), pp. 370-79. Bureau of Industry Economics, Canberra; University of Newcastle.

Knight, J. B. and Sabot, R. H.—Educational Policy and Labour Productivity: An Output Accounting Exercise

Output accounting methods are used to measure the effect of education on labor productivity. Some of the drawbacks of this approach to estimating the contribution of education are overcome by exploiting a "natural experiment" (Kenya and Tanzania are similar in relevant respects except in their policies for secondary education) and by introducing and measuring cognitive skills and reasoning ability as links between education and earnings. The greater quality of education and quantity of secondary education in Kenya are shown to have an important effect on earnings and productivity. The implication is that Tanzania might gain considerably from adopting Kenya's educational policies. *Econ. J.*, Mar. 1987, 97(385), pp. 199-214. University of Oxford; Williams College.

830 TRADE UNIONS; COLLECTIVE BARGAINING;
LABOR-MANAGEMENT RELATIONS

Reynolds, Morgan—Labor Relations at the Shop Floor Level

The view that a free economy and free society impoverish working people undergrids modern government involvement in labor markets and legal privilege for adversarial labor unions. This paper argues that most of the union difficulties managers must cope with at the shop-floor level stem from a fundamental source, namely: the philosophy of collectivism. The paper analyzes wage determination under personal and impersonal conditions, public policy toward labor contracts, and the role of businessmen in making labor markets operate more efficiently. *Managerial Dec. Econ.*, Mar. 1987, 8(1), pp. 7-53. Texas A&M University.

831 Trade Unions

Addison, John T. and Castro, Alberto C.—The Importance of Lifetime Jobs: Differences between Union and Nonunion Workers

The authors use CPS micro data to derive estimates of retention rates and eventual lifetime tenure probabilities for union and nonunion workers. Although both groups enjoy a considerable degree of near-lifetime employment (defined as eventual tenure of 20 + years with the firm), union workers evince measurably higher eventual tenure than their nonunion counterparts, especially among those with lower current tenure. A separate analysis suggests that this outcome may result in part from better job matching for union than for nonunion workers. The authors hypothesize that union workers enjoy an informational advantage in the labor market. *Ind. Lab. Relat. Rev.*, Apr. 1987, 40(3), pp. 393-405. University of South Carolina and Universität Regensburg, West Germany; Universidade do Porto, Portugal.

Chapman, P. G.—Alternative Trade Union Objective Functions in the Theory of Wage Bargaining

The paper concerns the appropriate specification of the trade union objective function for a unionized labor market. Particular attention is given to the expected effect of changes in membership size and the optimum wage. A summary

of the comparative static properties of a number of different objective functions is given and, with the exception of membership changes, there are no clear differences. The paper also comments on the implications of simultaneous changing membership levels and demand changes. It is argued that the implications of such changes depend on the type of objective function. *Manchester Sch. Econ. Soc. Stud.*, Dec. 1986, 54(4), pp. 367-79. University of Dundee, Scotland.

Eberts, Randall W. and Stone, Joe A.—Teacher Unions and the Productivity of Public Schools

The authors examine the title question using individual student data from the Sustaining Effects Survey. Holding resources constant and using achievement gains on standardized tests as the measure of output, they find that union districts are 7 percent more productive for average students. For the minority of significantly above- and below-average students, however, nonunion districts are more productive by about the same margin, apparently because teacher unions reduce the use of specialized instructional techniques. This result supports the view that unions tend to standardize the workplace. Across all students, the average union productivity advantage is 3 percent. *Ind. Lab. Relat. Rev.*, Apr. 1987, 40(3), pp. 354-63. University of Oregon.

Ellwood, David T. and Fine, Glenn—The Impact of Right-to-Work Laws on Union Organizing

Unlike most previous work, this paper examines the effect of right-to-work laws on flows into unionism through organizing rather than on the stock of unionism. Organizing offers a far more sensitive indicator of the situation of unionism and allows the use of both cross-sectional and time-series methods to explore the impact of the passage of a right-to-work law. The authors find that right-to-work laws have a sizable initial impact on organizing that decays over time. The effect holds up even when one uses fixed weights and causality tests. *J. Polit. Econ.*, Apr. 1987, 95(2), pp. 250-73. Harvard University; Department of Justice.

Hoyman, Michele M. and Stallworth, Lammont—Participation in Local Unions: A Comparison of Black and White Members

This article compares the participation of black and white union members in their local unions. Using more detailed measures of union participation than those employed in earlier studies, and focusing on members, not just leaders, the authors find little difference between blacks and whites. This surprising result which contradicts previous studies showing less participation by blacks, holds even with controls for gender, salary, education, number of years' memberships, the presence of friends in the union, the strength of a sense of efficacy, confidence in the ability to gain local union office, and the liberalness of attitudes about civil rights. *Ind. Lab. Relat. Rev.*, Apr. 1987, 40(3), pp. 323-35. University of Missouri, St. Louis; Loyola University.

Knight, Thomas R.—Tactical Use of the Union's Duty of Fair Representation: An Empirical Analysis

This paper presents the first empirical analysis of complainant behavior under the duty of fair representation. To partly explain the growth in fair representation cases, the author hypothesizes that some workers file representation complaints for tactical purposes—to acquire bargaining power in the grievance process or inflict political damage on incumbent union officers. The distribution of complaints and complaint outcomes across individuals and locals of one international union in British Columbia during 1975-83 supports the hypothesis. The author concludes that these results raise serious questions about the impact of the fair representation doctrine on unions' effectiveness as bargaining agents. *Ind. Lab. Relat. Rev.*, Jan. 1987, 40(2), pp. 180-94. University of British Columbia.

Manning, Alan—An Integration of Trade Union Models in a Sequential Bargaining Framework

This paper aims to embed two popular models of trade union behavior, the monopoly model and the efficient bargaining model, in a more general framework. It does this by analyzing sequential bargaining models where wages

are determined before employment and the power of the union in the two stages of the bargain differs. As well as finding that the monopoly and efficient bargain models are special cases of this model, a new class of models is also discovered. This framework is used to analyze the relationship between union power and efficiency, the empirical analysis of trade unions, and the effects of trade union legislation. *Econ. J.*, Mar. 1987, 97(385), pp. 121-39. Birkbeck College, London.

Maranto, Cheryl L. and Fiorito, Jack—The Effect of Union Characteristics on the Outcome of NLRB Certification Elections

This paper examines the determinants of NLRB certification election outcomes in individual election units between 1972 and 1980. Particular emphasis is given to the role of national union characteristics in determining union success or failure. The authors find that union success in organizing both blue- and white-collar workers is influenced positively by union size and internal democracy and negatively by strike activity and the centralization of its decision making. Benefits provided directly to members by unions significantly increase, and higher dues significantly reduce, white-collar organizing success, whereas the same factors have no significant effect on blue-collar organizing. *Ind. Lab. Relat. Rev.*, Jan. 1987, 40(2), pp. 225-40. University of Iowa.

Masters, Marick F. and Delaney, John Thomas—Union Political Activities: A Review of the Empirical Literature

The authors find that empirical research on unions' political activity since World War II has failed to answer many important questions. Not only have researchers neglected some issues outright, but disparate data sources and statistical methods, lack of a guiding theory, inconsistent findings, and hidden normative assumptions limit the generalizability of reported results. The review nevertheless confirms that union members and leaders often differ in political orientation, though the extent of disagreement varies across political issues. Also, unions apparently have been more successful at achieving political objectives only weakly supported by their members than at achieving the objec-

tives their members strongly support. *Ind. Lab. Relat. Rev.*, Apr. 1987, 40(3), pp. 336-53. University of Pittsburgh; Columbia University.

Mefford, Robert N.—The Effect of Unions on Productivity in a Multinational Manufacturing Firm

This paper examines unions' effect on productivity in thirty-one plants of a multinational firm in 1975-82. The plants, 60 percent of them unionized, all used material-intensive, labor-intensive, low-technology methods. Estimation of a translog production function shows that unionization's overall effect on productivity was positive. Specific findings are that unionization increased the capital-labor ratio and improved management performance but also raised the absenteeism rate. Because a net positive effect on productivity remains even when these channels of union influence are controlled for, the author suggests that unionization may improve the labor relations climate or labor quality. *Ind. Lab. Relat. Rev.*, Oct. 1986, 40(1), pp. 105-14. University of San Francisco.

Mishel, Lawrence—The Structural Determinants of Union Bargaining Power

This paper investigates the structural determinants of variation in union power across manufacturing industries. Using a pooled sample of unionized establishments from the Expenditure on Employee Compensation Surveys of 1968-72, the author estimates wage equations augmented with measures of product market structure, bargaining structure, and the size distribution of unions. The results suggest that union wage gains are greatest where discretionary pricing power enhances employers' ability to pay and where unions achieve high coverage, practice centralized bargaining, and avoid union fragmentation. On the other hand, centralized bargaining provides no advantage in competitive industries. *Ind. Lab. Relat. Rev.*, Oct. 1986, 40(1), pp. 90-104. Industrial Union Department, AFL-CIO.

Schwochau, Susan—Union Effects on Job Attitudes

This paper examines differences in the reported job satisfaction of union members and nonmembers using a multiple equation model

that treats union membership, wage rates, and reported satisfaction as endogenously determined. The result indicates that union members differ from nonmembers in how they assess their satisfaction with supervision, coworkers, and job content. Consistent with prior research, union members are found to report lower levels of satisfaction than nonmembers. Analyses of the effects of employer tenure and grievance procedures use lend only partial support to the "exit-voice" hypothesis as an explanation for these findings. *Ind. Lab. Relat. Rev.*, Jan. 1987, 40(2), pp. 209-24. State University of New York, Buffalo.

Stewart, Mark B.—Collective Bargaining Arrangements, Closed Shops and Relative Pay

This paper uses establishment-level data to examine the impact on union/nonunion pay differentials of the industrial relations setting in which bargaining takes place. The pre-entry closed shop is found to be of prime importance for the pay of both skilled and semiskilled manual workers. For skilled workers, and for semiskilled workers in larger establishments, the differentials are found to be insignificantly different from zero in the absence of a pre-entry closed shop. *Econ. J.*, Mar. 1987, 97(385), pp. 140-56. University of Warwick.

832 Collective Bargaining

Becker, Brian E.—Concession Bargaining: The Impact on Shareholders' Equity

This analysis of bargaining settlements in 1982-83 shows that, on average, shareholders in those firms that negotiated concessionary settlements enjoyed an 8 to 10 percent increase in the value of their holdings. The author interprets this result to mean not that the value of the firm increased, but rather that concessions enlarged the shareholders' portion of the firm's value at the expense of the workers' portion. On the other hand, concession bargaining does not seem to have reallocated business risk between shareholders and labor. *Ind. Lab. Relat. Rev.*, Jan. 1987, 40(2), pp. 268-79. State University of New York, Buffalo.

Bloom, David E.—Empirical Models of Arbitrator Behavior under Conventional Arbitration

Analysis of a new set of data indicates that conventional arbitrators tend to mechanically compromise between the parties' final offers with virtually no evidence of systematic reference to the facts of the cases. However, since there is a substantial amount of unexplained variance in the arbitrators' decisions, this evidence of mechanical compromise behavior should be viewed as characterizing the overall operation of conventional arbitration mechanisms and not the behavior of individual arbitrators in any particular case. Indeed, the results are consistent with the view that individual arbitrators pay close attention to the facts of the cases, but that there is considerable variation in the structure of different arbitrators' preference functions. *Rev. Econ. Statist.*, Nov. 1986, 68(4), pp. 578-85. Harvard University and National Bureau of Economic Research.

Carter, Colin, et al.—Agricultural Labor Strikes and Farmers' Income

This paper assesses the effectiveness of union strikes against agricultural industries. Various factors, including input substitution possibilities, create special challenges for union leaders. The authors develop the concept to a minimum-effective union and apply it empirically to the 1979 California lettuce strike. To be effective, a union has to reduce producer profits below the prestrike level. In the lettuce strike case, producer profits were actually increased, not reduced. Coauthors are Darrell L. Hueth, John Mamer, and Andrew Schmitz. *Econ. Inquiry*, Jan. 1987, 25(1), pp. 121-33. University of California, Davis.

Gramm, Cynthia L.—New Measures of the Propensity to Strike during Contract Negotiations, 1971-1980

This paper presents new measures—by month, industry, and union—of the percentage of labor contract negotiations in the United States that result in a strike. The measures are derived from a single, comprehensive sample of 6,046 contract negotiations occurring in 1971-80 in bargaining units of 1,000 or more workers. These data are superior to those used in previous studies because they measure strike probabilities (or propensities) directly rather than by proxy. The data show that strikes oc-

curred in 13.25 percent of all negotiations analyzed, but this strike rate varied substantially across years, industries, and unions. *Ind. Lab. Relat. Rev.*, Apr. 1987, 40(3), pp. 406-17. Cornell University.

Gunderson, Morley and Melino, Angelo—Estimating Strike Effects in a General Model Prices and Quantities

Estimates of the effect of strikes on the production, price, and purchases of North American automobiles are provided over the period 1966-79. The estimates are based on a model that reflects the decisions of both consumer and producers, and captures important intertemporal adjustments to allow for inventory buildup in anticipation of inventory depletion during, and replacements after, a strike. The results indicate that consumers and producers rationally responded to the strike through a variety of related intertemporal adjustment and while the initial effects can be quite pronounced, the long-run effects are usually minimal. *J. Lab. Econ.*, Jan. 1987, 5(1), pp. 1-15. University of Toronto.

Lee, Barbara A. and Parker, Joan—Supervisory Participation in Professional Associations: Implications of North Shore University Hospital

In *NLRB v. North Shore University Hospital* a circuit court prohibited a professional association from serving as a collective bargaining agent of a unit of registered nurses because the court found that statutory supervisors participated in the association's governance. Here the authors analyze the relevant case law; discuss earlier nursing representation cases; describe the responses of nurses' professional associations to *North Shore* in three states; and discuss the implications of *North Shore* and related decisions. They also propose an analytical model for the NLRB to follow in assessing the extent and seriousness of supervisory participation in a professional association. *Ind. Lab. Relat. Rev.*, Apr. 1987, 40(3), pp. 364-81. Rutgers University.

Leeds, Michael A.—Bargaining as Search Behavior under Mutual Uncertainty

This paper views bargaining as a bilateral search process conducted by rational but in-

completely informed agents. It is shown that one cannot generally predict how acceptable wages or wage proposals move during the course of a strike. The role of information and mechanisms that convey it are examined. The observation that wage proposals do converge is shown to be the result of exhaustible buffers that temporarily protect the bargaining agents. *Southern Econ. J.*, Jan. 1987, 53(3), pp. 677-84. Temple University.

Rose, Joseph B.—Legislative Support For Multi-Employer Bargaining: The Canadian Experience

This study appraises the laws adopted in the 1970s by most provinces in Canada for the purpose of promoting stronger employer associations and broader bargaining structures in the construction industry. The author finds that employer associations in construction are now more cohesive and less vulnerable to union whipsaw and leapfrog tactics, and the frequency of construction strikes has declined. On the other hand, other measures of strike activity, such as total days lost, increased following the legislative changes, and construction wages continued to rise as rapidly as in the late 1960s. *Ind. Lab. Relat. Rev.*, Oct. 1986, 40(1), pp. 3-18. McMaster University.

Ruben, George—Labor-Management Scene in 1986 Reflects Continuing Difficulties

This annual article discusses the 1986 labor contract settlements in private industry and federal, state, and local bargaining units of 1,000 workers or more. The focus of negotiations was on meeting competition, especially from foreign firms, in manufacturing, and from domestic firms in construction, telecommunications, and transportation. Bargainers concentrated on ways to restrain labor costs, increase productivity, and preserve jobs. New approaches emerged, and longstanding bargaining patterns disappeared as both labor and management sought to adjust to the shifting conditions in all forms of economic activity, ranging from individual plants to entire industries. *Mon. Lab. Rev.*, Jan. 1987, 110(1), pp. 37-48. Bureau of Labor Statistics.

Sockell, Donna—The Scope of Mandatory Bargaining: A Critique and a Proposal

This paper argues that the mandatory-permissive distinction in the scope of the duty to bargain collectively should give way to a policy of classifying all lawful subjects as mandatory. The author shows that in recent applications of the distinction, many subjects of interest to labor have been declared exclusively within management's control. She argues that the rationales used by the NLRB and the courts in these decisions are not compelling, and the mandatory-permissive distinction is even less convincing when its current application is compared to the criteria of an ideal scope of bargaining. *Ind. Lab. Relat. Rev.*, Oct. 1986, 40(1), pp. 19-34. Columbia University.

833 Labor-Management Relations

Doeringer, Peter B.; Moss, Philip I. and Terkla, David G.—Capitalism and Kinship: Do Institutions Matter in the Labor Market?

This study examines the determination of employment and pay on "capitalist" and "kinship" vessels in the New England fishing industry. Capitalist vessels resemble standard competitive firms in the way that employment and pay respond to changing market conditions; kinship vessels operate under work guarantees and income sharing rules. These differences in institutional rules lead to different patterns of income, employment, growth, and labor adjustment. The study shows how an understanding of the institutional structure of labor markets can contribute to the design of public policies to facilitate adjustments to change and to promote industrial growth. *Ind. Lab. Relat. Rev.*, Oct. 1986, 40(1), pp. 48-60. Boston University; University of Lowell and Institute for Employment Policy, Boston University; Boston University.

Héthy, Lajos—New Developments in Collective Forms of Work Organisation in Socialist Countries

New forms of collective work organization in Eastern Europe are rapidly gaining ground as increased stress is laid on material incentives in an effort to improve labor productivity and enterprise efficiency. In Czechoslovakia and the U.S.S.R., new-style brigades have created an additional source of income for their members and the growing practice of differential wage

distribution geared to performance has proved popular with the workers. In Hungary, semi-autonomous "work communities" within the enterprises have devised innovative approaches to production and incentives. In discussing the background and determinants of these developments, the differing perceptions of group work, and the relative merits of centralized and decentralized methods of regulation, the author gives a critical appraisal of the results achieved. *Int. Lab. Rev.*, Nov.-Dec. 1986, 125(6), pp. 659-74. Institute of Labor Research, Hungarian State Office for Labour and Wages, Budapest.

Voos, Paula B.—Managerial Perceptions of the Economic Impact of Labor Relations Programs

Managers of unionized Wisconsin firms were surveyed in 1984 concerning their companies' experiences with gainsharing programs, profit-sharing plans, employee stock-ownership plans, employee participation programs, joint union-management committees at the plant level, and community-wide union-management cooperation committees. Managers assessed gainsharing, profit-sharing, and participation programs as improving company performance more than the other types of programs. The local community cooperation committees were perceived as having no effect on firm performance. *Ind. Lab. Relat. Rev.*, Jan. 1987, 40(2), pp. 195-208. University of Wisconsin.

840 DEMOGRAPHIC ECONOMICS

841 Demographic Economics

Abeyasinghe, Tilek—Rising Needs and Falling Family Size: Implications from Marx on Demographic Transition

Marx's views of population growth and wage labor provides a useful framework to investigate the fertility decline experienced by the industrial world in an era of rising per capita incomes. It is argued here that the persistent increase in "social needs" (including skill needs) has compelled families to reduce their size by reducing the number of surviving children borne. This is viewed as a survival strategy adopted by individual families in place of direct and organized struggle for higher wages. *Rev. Soc. Econ.*, Dec. 1986, 44(3), pp. 281-93. University of Manitoba.

Becker, Gary S. and Tomes, Nigel—Human Capital and the Rise and Fall of Families

This paper develops a model of the transmission of earnings, assets, and consumption from parents to descendants. The model assumes utility-maximizing parents who are concerned about the welfare of their children. The degree of intergenerational mobility is determined by the interaction of this utility-maximizing behavior with investment and consumption opportunities in different generations and with different kinds of luck. The authors examine a number of empirical studies for different countries. Regression to the mean in earnings in rich countries appears to be rapid. Almost all the earnings advantages or disadvantages of ancestors are wiped out in three generations. *J. Lab. Econ.*, Pt. 2, July 1986, 4(3), pp. S1-39. University of Chicago and National Opinion Research Centre; University of Western Ontario and National Opinion Research Centre.

Behrman, Jere R. and Taubman, Paul—Birth Order, Schooling, and Earnings

Birth-order effects are posited by many to affect earnings and schooling. The authors show how such effects can be interpreted to shift either the earnings possibility frontier for siblings or parental preferences. The authors find empirical evidence for birth-order effects on (age-adjusted) schooling and on earnings for young U.S. adults, though the latter is not robust for all specifications. The examination of intra-household allocations suggests that these birth-order differences occur, despite parental preferences or prices, by birth order favoring later-borns, apparently because of stronger endowment effects that favor firstborns. *J. Lab. Econ.*, Pt. 2, July 1986, 4(3), pp. S121-45. University of Pennsylvania.

Hauser, Robert M. and Sewell, William H.—Family Effects in Simple Models of Education, Occupational Status, and Earnings: Findings from the Wisconsin and Kalamazoo Studies

Among fraternal pairs from the Wisconsin Longitudinal Study (1980), the authors model the effects of measured and unmeasured family background factors, mental ability, and schooling on occupational status and earnings. The

models are estimated from incomplete data with corrections for measurement error, and they permit direct comparisons of within- and between-family regressions. The authors find no evidence that the effects of family background lead to a bias in the effect of mental ability on schooling or in the effects of schooling on occupational status or earnings. *J. Lab. Econ.*, Pt. 2, July 1986, 4(3), pp. S83-115. University of Wisconsin.

Kearl, J. R. and Pope, Clayne L.—Unobservable Family and Individual Contributions to the Distributions of Income and Wealth

This paper uses combinations of full brothers, half brothers, and fathers and sons to measure the effect of common family background on a household's income and wealth. Intraclass correlations of half brothers, compared to those for full brothers, suggest that fathers play a dominant role in the transmission of the common family effect. When unobserved background is decomposed into individual and family effects, the individual effect dominates the family effect for income, while the family effect dominates the individual effect for wealth. *J. Lab. Econ.*, Pt. 2, July 1986, 4(3), pp. S48-79. Brigham Young University and National Bureau of Economic Research.

Keeley, Michael C.—The Effects of Experimental Negative Income Tax Programs on Marital Dissolution: Evidence from the Seattle and Denver Income Maintenance Experiments

This paper analyzes the effects of Negative Income Tax (NIT) Programs on marital stability. A household production model is used to show that the rate of marital dissolution should depend negatively on the increase in nonlabor income and positively on the decrease in the net (of tax) wage that is caused by an NIT. These hypotheses are tested employing an experimental impact model that uses data from the Seattle and Denver Income Maintenance Experiments. The empirical findings suggest that the rate of marital dissolution is sensitive to these parameters in a manner consistent with the hypotheses. *Int. Econ. Rev.*, Feb. 1987, 28(1), pp. 241-57. Federal Reserve Bank of San Francisco.

Lam, David—The Dynamics of Population Growth, Differential Fertility, and Inequality

This paper analyzes the effects of income differentials in fertility on Lorenz curves and standard inequality measures. The role of intergenerational mobility is examined and incorporated into counterfactual simulations based on Brazilian data. Two standard inequality measures move in opposite directions in both the steady state and the transition in response to the elimination of fertility differentials. The counterfactuals confirm the theoretical predictions of misleading intertemporal inequality comparisons in the presence of differential fertility. *Amer. Econ. Rev.*, Dec. 1986, 76(5), pp. 1103-16. University of Michigan.

Schultz, Theodore W.—The Changing Economy and the Family

The reasons why the family is not fading away as an economic entity are discussed. The economic approach should be extended to deal with the effects of the life-span revolution; large secular shifts in relative prices and commodities, durables, and services; changes in income components; and entrepreneurial ability of the family. What families do in distributing their endowments has less effect on the personal distribution of endowments than have general increases in real per capita incomes, changes in the composition of income, and the increases in the ratio of income derived from human capital relative to that derived from property. *J. Lab. Econ.*, Pt. 2, July 1986, 4(3), pp. S278-87. University of Chicago.

850 HUMAN CAPITAL; VALUE OF HUMAN LIFE

851 Human Capital; Value of Human Life

Catsiapis, George—A Model of Educational Investment Decisions

From a probit model of enrollments, estimates of the expected net present value of post-secondary education are developed for a sample of high school graduates, based exclusively on individual expectations of the relevant costs and benefits at the time of the enrollment decision. The results are very plausible and consistent with rate-of-return estimates from studies which rely on *ex post* income data. This suggests that students have rational expectations and relatively good information about future employ-

ment opportunities and other factors which determine the returns to educational investment. *Rev. Econ. Statist.*, Feb. 1987, 69(1), pp. 33-41. New York University.

Cohn, Elchanan and Kiker, B. F.—Socioeconomic Background, Schooling, Experience and Monetary Rewards in the United States

Using a selective sample from the 1977 Panel Study of Income Dynamics, the authors investigate the relations among schooling, job experience, socioeconomic status (SES), IQ, and earnings in the United States. In contrast to the results for the United Kingdom reported by John Papanicolaou and George Psacharopoulos, we find no interaction effect on earnings between schooling and SES. A positive interaction effect on earnings, however, is found between experience and SES. Introducing IQ in the analysis leaves the above-mentioned results unchanged. It is argued that differences between the U.S. and the U.K. might be due to cultural and labor-market factors. *Economica*, Nov. 1986, 53(212), pp. 497-503. University of South Carolina.

Conlisk, John—Notes on Mincer's Log-Earnings Model

In his famous human capital model, Jacob Mincer provides assumptions under which a worker's annual log-earnings are a function of years of schooling and years of experience. The function has the important property, widely invoked in empirical studies, that its derivative with respect to schooling equals the rate of return to the schooling investment. It is shown here that some of Mincer's assumptions are not needed for the property to hold, but that other assumptions carry troublesome hidden implications. *Econ. Inquiry*, Jan. 1987, 25(1), pp. 165-74. University of California, San Diego.

Prais, S. J.—Educating for Productivity: Comparisons of Japanese and English Schooling and Vocational Preparation

The high technical quality and reliability of Japanese manufactures raises questions of how the training and education of their workforce differs from Britain's. The standards reached by Japanese 15-18 year-olds in their technical and vocational secondary schools—and the

number of pupils reaching them—are described in this paper and compared with Britain, as well as the standards reached in mathematics during compulsory schooling until 15. This paper follows earlier studies of German and French schooling and vocational preparation (see National Institute Economic Review, August 1983, February and May 1985, and May 1986). *Nat. Inst. Econ. Rev.*, Feb. 1987, (119), pp. 40-56. National Institute of Economic and Social Research, London.

Rumberger, Russell W.—The Impact of Surplus Schooling on Productivity and Earnings

This article examines the impact of surplus schooling on individual productivity and earnings, proposing a model that divides workers' education into two components: education that is required and thus fully utilized in the job, and education that exceeds the amount required and may be underutilized in the job. It tests the model with data from the Quality of Working Life Surveys and estimates required schooling from estimates by job incumbents and the *Dictionary of Occupational Titles*. The results show that surplus education is rewarded at a lower rate than required education, with the return dependent on the type of job. *J. Hum. Res.*, Winter 1987, 22(1), pp. 24-50. Stanford University.

900 Welfare Programs; Consumer Economics; Urban and Regional Economics

910 WELFARE, HEALTH, AND EDUCATION

911 General Welfare Programs

Moffitt, Robert—Historical Growth in Participation in Aid to Families with Dependent Children: Was There a Structural Shift?

The dramatic increase in the growth rate of the caseload of the U.S. Aid to Families with Dependent Children program in the late 1960s and early 1970s—commonly called the "welfare explosion"—is examined. An analysis of the time-series and cross-section data indicates that changes in neither benefit levels, labor market conditions, nor characteristics of recipients can explain the explosion; hence there was a "structural shift." It is speculated that the explosion resulted from reductions in the stigma of wel-

fare receipt and from eased eligibility restrictions. *J. Post Keynesian Econ.*, Spring 1987, 9(3), pp. 347-63. Brown University.

Plotnick, Robert D.—An Interest Group Model of Direct Income Redistribution

An interest group model of the determinants of policies which directly redistribute income to low income persons is developed and tested. The model assumes that altruistic taxpayers, nonaltruistic taxpayers, and needy beneficiaries form separate interest groups from which politicians seek support. Benefit levels depend on variables such as taxpayer income and the price of benefits but, unlike median voter models, the model also implies a role for interest group strength and competition between political parties. The author uses latent variable methods and data on the Aid to Families with Dependent Children program to demonstrate empirical support for the model. *Rev. Econ. Statist.*, Nov. 1986, 68(4), pp. 594-602. University of Washington.

913 Economics of Health (including medical subsidy programs)

Branch, E. Raphael—Comparing Medical Care Expenditures of Two Diverse U.S. Data Sources

This article examines the cost of health care to consumers, exclusive of financing by other parties—referred to as direct payments for personal health care or out-of-pocket expenditures for medical care. As part of the evaluation process, data from the BLS Consumer Expenditure Survey (CE) are compared with those from the National Health Accounts (NHA). The CE and the NHA are constructed for different purposes and, hence, use different estimation methods. The CE focuses on family spending and is the major source for out-of-pocket data by demographic groups. The NHA focuses on national aggregate expenditures for all health care by categories and sources of financing. *Mon. Lab. Rev.*, Mar. 1987, 110(3), pp. 15-18. Bureau of Labor Statistics.

Dauley, Stephen Day—The Time Price of Medical Care

An econometric model is used to impute the value of time in the demand for medical care

for members of a prepaid group practice medical care program. Separate estimates are obtained for: (1) individuals who were employed full time, (2) housewives, and (3) time associated with taking children to a doctor. For individuals who were employed full time, the estimate was close to the median wage rate. Sick leave was estimated to substantially reduce the value of time. It was concluded that ignoring the time price of medical care may result in misleading statistical analysis and mistaken policy recommendations. *Rev. Econ. Statist.*, Feb. 1987, 69(1), pp. 59-66. Seaver College, Pepperdine University.

Lamberton, C. E.; Ellingson, W. D. and Spear, K. R.—Factors Determining the Demand for Nursing Home Services

Private and Medicaid supported demands for nursing home use in a rural state were estimated using need as well as economic variables. Economic variables were significant only in the private demand market, which was found to be price inelastic. Income elasticity was unitary. Need variables such as access to physician services or home health visits were significant in both markets. Medicaid supported demand was greater in more rural areas. The models also suggest that continued urbanization and retention of population will tend to reduce demand for nursing home services in a rural state. *Quart. Rev. Econ. Bus.*, Winter 1986, 26(4), pp. 74-90. South Dakota State University; South Dakota State University; North American Equitable Life Assurance.

Peltzman, Sam—Regulation and Health: The Case of Mandatory Prescriptions and an Extension

The effect of requiring consumers to obtain prescriptions for pharmaceuticals is examined for a sample of middle-income countries. In countries enforcing the requirement, infectious disease mortality is no lower and poisoning mortality is higher than in those not enforcing the requirement. A broader measure of government intervention, public expenditures on health relative to GDP, is shown to have moderately adverse effects on overall life expectancy. *Managerial Dec. Econ.*, Mar. 1987, 8(1), pp. 41-46. University of Chicago.

Yeas, Martynas A.—Recent Trends in Health near the Age of Retirement: New Findings from the Health Interview Survey

This article examines whether, as assumed, an increase in life expectancy should be accompanied by increasing age-specific health rates. A review of the literature shows that the health changes to be expected from the recent mortality decline are unclear. Data are examined for groups aged 62–67 and 55–70 in the period 1969–81. A variety of measures of limitation, medical care utilization, and subjective health showed similar trends. Health generally declined during the first part of the period, but the trend, if any, was much less clear for more recent years. However, simple linear projections of health status change may be misleading. *Soc. Sec. Bull.*, Feb. 1987, 50(2), pp. 5–30. Social Security Administration.

915 Social Security

Cox, J. P.—Economic Growth and Income Support Policy in Australia

This paper examines the growth in welfare spending in Australia over the 20 years from the early 1960s to the early 1980s. The levels of benefit and high tax rates implicit in the tax and social security systems are shown to create disincentives over wide ranges of private income. More generous levels of benefits had a modest but significant part in the growth of unemployment since 1970. The efficiency costs of meeting society's distributional objectives can be minimized by targeting assistance to the most needy and by the careful use of income testing. *Econ. Rec.*, Sept. 1986, 62(178), pp. 268–85. Economic Planning Advisory Council, Canberra, Australia.

Lopez, Eduard A.—Constitutional Background to the Social Security Act of 1935

The Social Security Act contained provisions to help those persons most affected by the Great Depression—a national old-age insurance program for the elderly and a system of nationally uniform State unemployment programs for those without jobs. Although the Act was passed by overwhelming majorities in both Houses of Congress, there was concern that the Supreme Court would declare the programs unconstitu-

tional. This article discusses the social security cases and the issues that preceded the Court's decision to uphold those provisions. It gives an overview of the constitutional background to the Social Security Act of 1935. *Soc. Sec. Bull.*, Jan. 1987, 50(1), pp. 5–11. Social Security Administration.

Packard, Michael D.—Income of New Disabled-Worker Beneficiaries and Their Families: Findings from the New Beneficiary Survey

According to the Social Security Administration's New Beneficiary Survey, the 1982 median monthly incomes of disabled workers who came on the social security disability rolls from mid-1980 to mid-1981 were less than \$500 if they were unmarried and less than \$1,300 if they were married. Social security benefits were the most important source of income for disabled workers and their families, accounting for 40 percent of total family income of married disabled workers and 65 percent of income for the unmarried. Earnings accounted for 28 percent of income for married disabled-worker beneficiaries, but only about 3 percent for the unmarried. *Soc. Sec. Bull.*, Mar. 1987, 50(3), pp. 5–23. Social Security Administration.

Rocklin, Sarah G. and Mattson, David R.—The Employment Opportunities for Disabled Americans Act: Legislative History and Summary of Provisions

This article describes the legislative history of the Employment Opportunities for Disabled Americans Act and contains a summary of the provisions of the new law. The intent of this legislation is to enhance the work incentives for the disabled and blind under the supplemental security income (SSI) law. The law makes permanent and improves section 1619 of the Social Security Act, provisions that were enacted as a temporary demonstration project in 1980. These provisions encourage disabled and blind individuals who are eligible for SSI benefits to make work attempts by providing special SSI payments and Medicaid coverage while they do so. *Soc. Sec. Bull.*, Mar. 1987, 50(3), pp. 25–35. Social Security Administration.

916 *Economics of Law and Crime*

Centner, Terence J. and Wetstein, Michael E.—Reducing Moral Hazard Associated with Implied Warranties of Animal Health

Implied warranties convey information regarding animal health to livestock buyers. Statutory implied warranties also include insurance coverage for a warranty breach which removes buyers' incentives to mitigate possible damages when a warranty is breached. Nonmitigation of damages created the problem of moral hazard, which led livestock sellers to seek legislative exemptions abrogating implied warranties. A theoretical analysis of the possible inefficiencies associated with legislative exemptions adopted by twenty-five states is provided, and partial insurance is suggested as an alternative to the legislative shift in liability. *Amer. J. Agr. Econ.*, Feb. 1987, 69(1), pp. 143-50. University of Georgia.

Lang, Kevin and Bell, Duran—An Economic Model of the Intake Disposition of Juvenile Offenders

In Becker's model, punishment is not constrained by a normative "socially acceptable" level. Roy Carr-Hill and Nicholas Stern (1979) show that the justice system requires a concept of "appropriate" punishment which places either an upper bound on punishment or a cost of deviating from the "appropriate" penalty. The authors estimate the social loss function implicitly minimized by police intake officers' processing of juvenile offenders. The calculation of social cost appears to ignore both the private costs of punishment and the seriousness of the crime. This suggests that concepts of rights and appropriate penalties affect decisions and provide a nonbinding upper bound on punishment. *J. Public Econ.*, Feb. 1987, 32(1), pp. 79-99. University of California, Irvine.

Viscusi, W. Kip—The Risks and Rewards of Criminal Activity: A Comprehensive Test of Criminal Deterrence

Whereas previous analyses of criminal deterrence have focused on the effect of criminal enforcement on crime rates, this study analyzes the existence of compensating differentials for criminal pursuits. Analyzing the risk-rewards trade-off, this approach represents a more comprehensive test of the criminal deterrence hy-

pothesis. The sample consisted of black inner-city youths who reported their participation, income, and self-assessed risks from crime. The risk premiums for the three principal adverse outcomes (arrest, conviction, and prison) constituted between one-half and two-thirds of all crime income on the average, providing strong support for the criminal deterrence hypothesis. *J. Lab. Econ.*, Pt. 1, July 1986, 4(3), pp. 317-40. Northwestern University and National Bureau of Economic Research.

917 *Economics of Minorities; Economics of Discrimination*

Corcoran, Mary E. and Courant, Paul N.—Sex-Role Socialization and Occupational Segregation: An Exploratory Investigation

This paper explores the possibility that differences in the pre-labor market treatment of men and women (boys and girls) may lead to differences in tastes and talents at the level of the labor market, thus accounting for some of the unexplained gap between male and female earnings. Three examples of such phenomena are explored, and in all three cases the results tend to confirm the basic idea that sex-differences in characteristics that are relevant in the labor market arise in part from socialization and training of boys and girls that is oriented towards maintenance of traditional sex roles. *J. Post Keynesian Econ.*, Spring 1987, 9(3), pp. 330-46. University of Michigan.

Datcher-Loury, Linda—Racial Differences in the Stability of High Earnings among Young Men

The proposition that there is a large and growing black middle class is a major tenet of much recent work on black economic progress. This paper examines one aspect of middle-class status for black families, namely, the stability of high earnings among young male household heads. It finds that while such men are much less likely to have high earnings than are their white counterparts, there are only small racial differences in the stability of high earnings over time. *J. Lab. Econ.*, Pt. 1, July 1986, 4(3), pp. 301-16. Tufts University.

Fischer, Charles C.—Toward a More Complete Understanding of Occupational Sex Discrimination

Institutional theories of occupational sex discrimination are methodologically superior to other such theories. The institutional methodology is well suited for exploring questions critical to occupational sex discrimination, which other theories beg: the dynamic feedback relationships among the sources of occupational sex discrimination, the ways in which individuals interact with their environment, and the cultural foundations of male-female socioeconomic distinctions. Yet, there are parts of this puzzle that none of our theories explain. An interdisciplinary approach is needed. Institutionalism, with its emphasis on interactive open systems analysis, is well suited for taking the lead in the development of an integrative model of occupational sex discrimination. *J. Econ. Issues*, Mar. 1987, 21(1), pp. 113-38. Pittsburg State University, Kansas.

Williams, Walter E.—How Business Transcends Politics

The paper states the importance of the free market in combating racial prejudice through the ability to offer compensating price differentials. As such, required withdrawal of U.S. firms from South Africa would have a negative effect on race relations in South African workplaces. *Managerial Dec. Econ.*, Mar. 1987, 8(1), pp. 15-20. George Mason University.

Yinger, John—Measuring Racial Discrimination with Fair Housing Audits: Caught in the Act

A survey technique called a "fair housing audit" provides a direct measure of racial discrimination in housing. This paper examines the econometric issues raised by audit data, measures the discrimination uncovered by a 1981 Boston study, and tests hypotheses about the causes of discrimination. The estimated level of discrimination is high: Black housing seekers are told about 30 percent fewer available housing units than are whites. The hypothesis tests indicate that the primary cause of this discrimination is that housing agents illegally promote their economic interests by catering to the racial prejudice of their current or potential white customers. *Amer. Econ. Rev.*, Dec. 1986, 76(5), pp. 881-93. Syracuse University.

920 CONSUMER ECONOMICS

921 Consumer Economics; Levels and Standards of Living

Alcorno, Eduard A. and Johnson, Lester W.—An Alternative Approach to the Specification of Approximate Demand Systems

A new methodology is proposed that can be used to derive approximate demand systems with more advantageous properties than those currently available, e.g., the basic Rotterdam model. It provides a solution to the problems caused by the Rotterdam fixed coefficient parameterization and introduces a model with clearly defined aggregation properties. Preliminary results of an empirical test of the model, using well documented alcohol demand data, suggests that further work on the new model is warranted. *Australian Econ. Pap.*, Dec. 1985, 24(45), pp. 380-93. Macquarie University.

Bewley, Ronald and Young, Trevor—Applying Theil's Multinomial Extension of the Linear Logit Model to Meat Expenditure Data

One of the chief drawbacks of the multinomial extension of the linear logit model is that, after the standard linearization, the parameters which are directly estimated have no obvious economic meaning. This paper presents alternative transformations which facilitate interpretation. In one linearization the estimated coefficients will be elasticities at a selected data point such as the mean. In another form, the coefficients will be Slutsky parameters. The latter version is chosen for an empirical analysis of the demand for meat in Great Britain. A number of issues concerning the model's error structure and dynamic specification are discussed. *Amer. J. Agr. Econ.*, Feb. 1987, 69(1), pp. 151-57. University of New South Wales; University of Manchester.

Coondoo, Dipankor and Majumder, Amita—A System of Demand Equations Based on Price Independent Generalized Linearity

This paper proposes a static demand system of the Price Independent Generalized Linearity (PIGL) class of J. Muellbauer. The primary motivation for this is to use the plausible nonlinear income responses displayed by the PIGL in empirical analysis. The performance of the pro-

posed system is compared empirically with those of the Almost Ideal Demand System and a modification of the simple Nonadditive model of A. S. Deaton. The results bring out the inadequacies of the PIGL specifications in capturing fully the nonlinearity of income responses implicit in the repeated cross-sectional Indian consumption data used in the empirical work. *Int. Econ. Rev.*, Feb. 1987, 28(1), pp. 213-28. Indian Statistical Institute, Calcutta.

Cox, Thomas L. and Wohlgemant, Michael K.—Prices and Quality Effects in Cross-sectional Demand Analysis

A conceptual clarification of the sources and meaning of cross-sectional price variability is used to motivate a theoretical and econometric framework for the estimation of cross-sectional demand functions. Quality effects are distinguished from supply-related price variability to identify cross-sectional demand for disaggregated food commodities. An empirical application using data from the 1977-78 Nationwide Food Consumption Survey indicates that parameter differences resulting from a failure to adjust cross-sectional prices for quality effects are likely to be small for relatively homogenous, disaggregated food commodities. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 908-19. University of Wisconsin; North Carolina State University.

Franklin, David L.; Harrell, Marlelouis W. and Leonard, Jerry B.—Income Effects of Donated Commodities in Rural Panama

Analyses of food expenditure data from rural households in Panama showed that the marginal propensity to consume food out of additional income in the form of donated food is not different than the marginal propensity to consume food out of money income for households participating in the Veraguas supplemental funding program. These results suggest that take-home food programs can have significant income-mediated impacts on the acquisition of food, and accordingly, food supplementation programs should be designed to maximize the income value of the donated commodities in terms of prices prevailing in the local markets. *Amer. J. Agr. Econ.*, Feb. 1987, 69(1), pp. 115-22. Sigma One Corporation, Raleigh, North Carolina.

Hamermesh, Daniel S. and Menchik, Paul L.—Planned and Unplanned Bequests

The authors distinguish between bequests that are planned as part of a lifetime optimization process and those that are the unplanned result of errors in forecasting the date of death. Given the initial endowment, a positive relation between the bequest and the planning horizon, and a negative relation between unexpectedly long life and the bequest is expected. A unique data set on wealthy decedents and their parents provides measures of expected horizons based on parents' longevity. Both predictions are confirmed, and there is an especially large and significant positive relation between the bequest and the length of the planning horizon. *Econ. Inquiry*, Jan. 1987, 25(1), pp. 55-66. Michigan State University.

Kokoski, Mary F.—An Empirical Analysis of Intertemporal and Demographic Variations in Consumer Preferences

Analysis of consumer demand behavior typically focuses on either the cross-sectional dimension or takes a time-series approach. The former ignores intertemporal changes in preferences, and the latter ignores differences in preferences among different groups of consumers. In this study two identically defined cross sections of expenditures data are used to estimate a nonhomothetic demand system for food at home for three demographic groups. The results indicate that both demographic and intertemporal differences in preferences are significant, and that the method of incorporating demographic variables into the estimation is also important. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 894-907. Bureau of Labor Statistics, Washington, D.C.

Kooreman, Peter and Kapteyn, Arie—A Disaggregated Analysis of the Allocation of Time within the Household

In this paper the authors estimate a model of the allocation of time within the household using data that allows them to distinguish between a large number of time uses. The model is explicitly derived within a utility maximization framework and can be estimated by relatively simple two-step estimation procedures. The model provides a natural framework to test

implications of the more restrictive models of Reuben Gronau (1977, 1980) and John Graham and Carole Green (1984). *J. Polit. Econ.*, Apr. 1987, 95(2), pp. 223-49. Tilburg University.

Kotlikoff, Laurence J.; Shoven, John and Spivak, Avia—The Effect of Annuity Insurance on Savings and Inequality

This paper examines the amount of precautionary savings and wealth inequality arising from life-span uncertainty by comparing saving behavior under perfect insurance arrangements with that arising under imperfect arrangements, namely, when longevity risk can be pooled only with members of one's own family. The central findings of the paper are: (1) perfecting insurance arrangements can lower savings in intergenerationally altruistic and life-cycle economies and (2) in altruistic economies perfecting annuity insurance can influence inequality; indeed, in the long run in the model, switching from imperfect family insurance to perfect insurance can mean the difference between absolute inequality and absolute equality. *J. Lab. Econ.*, Pt. 2, July 1986, 4(3), pp. S183-207. Boston University and National Bureau of Economic Research; Stanford University and National Bureau of Economic Research; Ben Gurion University, Israel.

Mason, Charles and Butler, Clifford—New Basket of Goods and Services Being Priced in Revised CPI

As part of the Consumer Price Index (CPI) revision, effective for January 1987 data, the market basket of goods and services priced for the measure has been updated to reflect changes in consumer spending. The revised CPI uses a market basket based on 1982-84 buying patterns. In addition, new definitions of some expenditure categories in the CPI are introduced. This article describes how the market basket is constructed and compares the new basket with the previous one (1972-73). Changes in consumption since the last revision are examined with respect to developments in prices, demographics, and other variables which may explain observed market basket differences. *Mon. Lab. Rev.* Jan. 1987, 110(1), pp. 3-22. Bureau of Labor Statistics.

Pearce, I. F. and Thomas, S. H.—Personal Savings and Transactions Balance Changes

In this paper the authors draw attention (1) to the role of contractual saving via life funds in the definition of personal savings and (2) to the appearance of transactions balance changes in recorded data when inflation is present. Using quarterly U.K. data for the period 1963-82, they estimate a simple model, which is both theory and data consistent: changes in noncontractual savings are dominated by transaction balance changes, and other economic variables that frequently appear in savings and consumption studies are found to be unimportant. *Manchester Sch. Econ. Soc. Stud.*, Dec. 1986, 54(4), pp. 380-90. University of Southampton, England.

Pollak, Robert A. and Wales, Terence J.—Pooling International Consumption Data

Pooling consumption data from different countries for demand system estimation is attractive because it increases both sample size and the range of variation of relative prices and income. The major objection to pooling is that different countries may have different demand system parameters. This paper proposed and estimates specifications that permit pooling while allowing both short-run and long-run demand systems to differ across countries. Using data from Belgium, the United Kingdom, and the United States, the authors find that, although pooling was accepted for some pairs of countries and some specifications, it was rejected for most. They conclude that caution is appropriate in pooling international consumption data. *Rev. Econ. Statist.*, Feb. 1987, 69(1), pp. 90-99. University of Pennsylvania; University of British Columbia.

Senauer, Ben; Sahn, David and Alderman, Harold—The Effect of the Value of Time on Food Consumption Patterns in Developing Countries: Evidence from Sri Lanka

This study shows that the opportunity cost of women's time can affect household food consumption patterns in developing countries. Demand equations for rice, bread, and the ratio of bread to total cereal consumption are estimated for urban Sri Lankan households. The demand specification, which is based on the

"New Household Economics," includes as explanatory variables the woman's estimated market wage and the household's "full income," and alternatively "observed income." Wages are estimated using the Heckman (1976) procedure to correct for sample selection bias. *Amer. J. Agr. Econ.*, Nov. 1986, 68(4), pp. 920-27. University of Minnesota; International Food Policy Research Institute, Washington, D.C.; International Food Policy Research Institute, Washington, D.C.

Smolensky, Eugene, et al.—An Application of a Dynamic Cost-of-Living Index to the Evaluation of Changes in Social Welfare

Increasing real income has not been accompanied by increasing public satisfaction. Simultaneously, there have been large unexplained shifts in demand functions which, when translated into a real welfare index, support the widely perceived malaise. Economists have not explained these shifts in demand patterns, hence there is no explanation of the malaise. This paper offers some conjectures, which can be tested using more comprehensive real income measures. Empirical estimations of a complete demand system by adding price data to a pooled sample of households permit the authors to do what earlier studies could not do: derive true cost-of-living indices from cross-section data. Coauthors are David Betson, Myung-Hoon Lee, and Jacques van der Gaag. *J. Post Keynesian Econ.*, Spring 1987, 9(3), pp. 364-80. University of Wisconsin.

Starck, Christian C.—Indexation and Household Saving Behavior: Some Empirical Evidence from Finnish Data

This paper utilizes data from Finland concerning indexed deposit accounts to produce empirical evidence on the effects of indexation on the saving behavior of households. Findings support the view that the hedging ability of a fully indexed asset in the presence of inflation uncertainty causes reallocation through a hedging demand towards a larger share of the indexed asset. This conclusion seems fairly robust with respect to various proxies for household wealth, modification of the basic model, and estimation methods. Saving through banks are positively affected but not the savings ratio in

general. *Weltwirtschaft. Arch.*, 1986, 122(4), pp. 713-27. Bank of Finland.

930 URBAN ECONOMICS

931 Urban Economics and Public Policy

Erickson, Rodney A. and Wollover, David R.—Local Tax Burdens and the Supply of Business Sites in Suburban Municipalities

The purpose of this study is to examine the effects of local household tax burdens and other community attributes on the supply of business sites made available by local municipalities. A model of community site supply is tested in which municipalities trade-off increased fiscal benefits from business location and reductions in environmental quality that accompany industrial and commercial development. This trade-off is embodied in municipal zoning decisions. Empirical analysis of industrial and commercial zoning in two rapidly growing suburban counties of the Philadelphia metropolitan area provides considerable support for the tenets of community site supply theory. *J. Reg. Sci.*, Feb. 1987, 27(1), pp. 25-37. Pennsylvania State University; Naval Air Systems Command, Washington, D.C.

932 Housing Economics

Allen, Paul R.; Shilling, James D. and Sirmans, C. F.—Contracting Contingencies and Single-Family House Prices

This paper investigates the relationship between single-family house prices and contingent terms in contracts. Since contingencies create uncertainty, the market should exact a price premium. The results indicate that the contracting for property rights affects house prices in the predicted ways. *Econ. Inquiry*, Jan. 1987, 25(1), pp. 159-64. Louisiana State University.

Jud, G. Donald and Bennett, D. Gordon—Public Schools and the Pattern of Intraurban Residential Mobility

This paper examines the influence of school quality and student racial composition in shaping the pattern of intraurban migration. The first section develops a model of intraurban migration. The second section tests the model using data from a survey of recent homebuyers in Charlotte, North Carolina. Next, the model

is reestimated using data on school enrollment changes in Los Angeles County, California. The final section summarizes relevant findings. In both Charlotte and Los Angeles, the academic quality of public schools is found to be a significant factor in shaping the pattern of intraurban mobility, and this effect appears to be independent of school racial composition. *Land Econ.*, Nov. 1986, 62(4), pp. 362-70. University of North Carolina, Greensboro.

Rätzer, Ernst—Mieterschutz und Wohnungsmarkt. Die Mietpreisbeschränkung im schweizerischen Missbrauchsbeschluss (Tenant Protection and the Rental Housing Market. The Regulation of the Prices of Rental Housing in the Swiss Legislation against Abuses)

Based on a theoretical analysis, all legislation which is effectively influencing the prices of rental housing has, in the longer run, effects upon several variables: maintenance level, frequency of change of tenants, vacancy rate, housing shortage, duration of life of apartment houses, frequency of demolitions, housing density, mobility of tenants, and volume and prices of newly constructed houses, among others. Whether the Swiss legislation against abuses really has these effects is not evident *a priori*, but has to be confirmed by empirical evidence. A first examination of available data does not seem to contradict the hypothesis of a certain effectiveness. *Schweiz. Z. Volkswirtschaft. Statist.*, Mar. 1987, 123(1), pp. 23-45 (German). Brückreutweg 64, 3110 Münsingen, Switzerland.

Schwartz, Seymour I.; Zorn, Peter M. and Hansen, David E.—Research Design Issues and Pitfalls in Growth Control Studies

Accurate measurement of the effect of growth control on house prices requires that the research design control for factors other than the growth control program that could affect house prices. This paper draws on a hedonic view of housing markets to examine and compare the merits of several forms of quasiexperimental and statistical controls. The methodological critique is tested empirically, using data from Davis, California (a growth control city) and three comparison cities. The resulting estimates

of the growth control effect vary widely among the methods, and in particular, between a theoretically inferior method that is widely used and the preferred method. It is concluded that preferred methods are able to reduce important sources of bias. *Land Econ.*, Aug. 1986, 62(3), pp. 223-33. University of California, Davis; Cornell University; University of California, Davis.

Thalmann, Philippe—Explication empirique des loyers lausannois (A Hedonic Approach to Explaining Rents in the Community of Lausanne)

The hedonic method is described and used for explaining rents in the community of Lausanne as a function of a small number of indicators. By calibrating a second index for the other communities of the district, it is possible to test the robustness of the method and to distribute the differences in the rents. The data for the hedonic model were obtained from a micro-survey in the Canton of Vaud in 1983. In particular, the approach makes it possible to compare the rents to calculate the "usual rents" for "comparable dwellings" of the rent surveillance in Switzerland, and also to estimate the rent value for freehold flats. *Schweiz. Z. Volkswirtschaft. Statist.*, Mar. 1987, 123(1), pp. 47-70 (French). Harvard University.

933 Urban Transportation Economics

Foster, Christopher D. and Golay, Jeanne—Some Curious Old Practices and Their Relevance to Equilibrium in Bus Competition

Local bus monopolies were created in the 1930s, *inter alia* to overcome dangerous competitive practices. The 1986 Transport Act restored local competition. This paper uses and extends elements of models developed to examine spatial equilibrium, to examine whether equilibrium exists and, if not, whether former dangerous practices will be revived. The answer is that in plausible circumstances, equilibrium exists and the worrying practices would not be rational on routes without appreciable congestion and where demand is reasonably predictable. Otherwise they may occur, but should not be disequilibrating. *J. Transport Econ. Policy*, May 1986, 20(2), pp. 191-216. British Telecom, London.

nister, Stephen—Bus Deregulation, Competition and Vehicle Size

Simulation of open competition on the network of bus routes in a medium size British town. Pricing, product differentiation, and level of service are discussed. Service frequencies and patronage will be substantially increased on the densest route. Some routes previously dependent on cross-subsidy might be capable of independent expansion and the weakest routes will contract somewhat. Small vehicles will often have a competitive advantage over the traditional size. On dense routes they may operate in competition with larger vehicles offering a better service at a premium price. There might be significant adverse effects on traffic congestion. *J. Transp. Econ. Policy*, May 1986, 2(2), pp. 217-44. London School of Economics and Political Science.

Wiley, Wayne K. and Anderson, Eric E.—An Urban Transit Firm Providing Transit, Paratransit and Contracted-out Services: A Cost Analysis

This paper analyzes the cost structure of a nontraditional (but increasingly important) public transit firm, i.e., a paratransit-transit firm which provides both mass transit and paratransit services as well as contracted-out service. A number of conclusions follow from the analysis. First, contracting out a service substitutable for motorbus service may induce unionized motorbus operators fearful of job losses to agree to work-rule changes that allow transit management to change their work schedules in order to lower the cost of motorbus service. Second, if a service provision measured in terms of vehicle miles, the services ranked according to cost are having the largest cost elasticity to the fare are motorbus, elderly and handicapped paratransit, van pool paratransit, and contracted-out dial-a-ride paratransit service, respectively. *J. Transp. Econ. Policy*, Sept. 1986, 3(3), pp. 353-68. Old Dominion University.

Robster, F. V. —Transport in Towns: Some of the Options

In urban areas, current trends in population growth, employment location, car ownership, travel needs, and costs for public and private means of transport all favor more private car use at

the expense of public transport. Those without easy access to a car, including many members of car-owning households, may experience increasing hardship if these trends continue. The potential of policy options to modify these trends is considered, examining in particular the impacts of public transport subsidy, improved public transport operating efficiency through deregulation, new road and rail investment, and private traffic restraint. *J. Transp. Econ. Policy*, May 1986, 20(2), pp. 129-52. Transport Road Research Laboratory, United Kingdom.

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Carlino, Gerald A. and Mills, Edwin S.—The Determinants of County Growth

This paper explores the determinants of population and employment densities interregionally. The theoretical model, attributable to Donald N. Steinnes and Walter D. Fisher, permits simultaneous determination of population and employment densities. This is applied to data for about 3,000 counties in the United States to analyze the effects of economic, demographic, climatic, and policy-related variables on the growth of population and employment during the 1970s. Considering employment, differential county growth is explained in terms of economic and demographic conditions; regional and policy variables matter less. For population, climate matters as a preference for sunbelt states. Local government programs regarding education and tax policy seem to play a role. *J. Reg. Sci.*, Feb. 1987, 27(1), pp. 39-54. Federal Reserve Bank of Philadelphia; Princeton University.

Dow, Sheila C.—The Treatment of Money in Regional Economics

A survey of regional monetary theory suggests a regional segmentation of financial markets on the basis of differences in portfolio preference or market imperfections. These possibilities are explored using post-Keynesian monetary theory. It is concluded that the availability of credit to a region depends more on the (potentially volatile) degree of confidence in the regional economy. The amount of liquidity thus generated depends on the propensity

for capital flight due to liquidity preference. The resulting tendency for regions attracting low degrees of confidence to experience liquidity shortage will be greater the more integrated the national banking system. *J. Reg. Sci.*, Feb. 1987, 27(1), pp. 13-24. University of Stirling, Scotland.

Nagurney, Anna—Computational Comparisons of Spatial Price Equilibrium Methods

In this paper the author proposes new algorithms for the solution of both general and standard spatial price equilibrium problems, and tests their performance with existing algorithms on randomly generated problems. For the standard problem, she proposes decomposition schemes based on the concept of "equilibration operator" and compares their performance with the Frank-Wolfe method. For the general problem, the author's presents alternative variational inequality formulations defined over Cartesian products of sets and then exploits these formulations to construct Gauss-Seidel type serial decomposition methods. She then compares their performance with the projection method. The computational tests suggest that the new schemes are substantially more efficient than earlier ones. *J. Reg. Sci.*, Feb. 1987, 27(1), pp. 55-76. University of Massachusetts.

Roback, Jennifer—Determinants of the Local Unemployment Rate

This paper uses a hedonic price model to decompose the local unemployment rate into its supply and demand components. The theoretical section predicts that wage premia demanded by workers for unemployment would rise with increases in the local unemployment rate. The prediction for the firm side is ambiguous but the presumption is that premia fall as unemployment rises. The model was tested us-

ing Colombian Census Data (1973). The empirical results conform to theoretical expectations. The results also are consistent with the Todaro (1969) hypothesis about migration. *Southern Econ. J.*, Jan. 1987, 53(3), pp. 735-50. George Mason University.

Sakashita, Noboru—Optimum Location of Public Facilities under the Influence of the Land Market

This paper discusses the problem of the optimal location of public facility(ies) in a long narrow city, especially taking into consideration the externality-internalizing effect of the land market. It shows a systematic approach to dealing with the land market mechanism in first a one-facility and then a two-facility case. The analysis assures the importance of posing the location-optimizing problem even under the influence of the land market. *J. Reg. Sci.*, Feb. 1987, 27(1), pp. 1-12. University of Tsukuba, Japan.

Tobin, Roger L.—Sensitivity Analysis for General Spatial Price Equilibria

General spatial price equilibrium models are formulated as variational inequalities. Sensitivity analysis results recently developed for variational inequalities are reviewed, which give conditions for existence and equations for calculating the derivatives of solution variables with respect to perturbation parameters. These results are applied to the variational inequality formulations of general spatial price equilibria, and derivatives of supplies, demands, flows, and prices with respect to perturbations of supply functions, demand functions, and transportation-cost functions are calculated. *J. Reg. Sci.*, Feb. 1987, 27(1), pp. 77-102. GTE Laboratories, Waltham, Massachusetts.

Index of Authors of Articles in the Subject Index

This *Index* includes all articles included in the *Subject Index*; the numerical references (arranged randomly) are to the *subject classification(s)* of the article. Classifications for different articles by the same author are separated by a semicolon; *page number(s)* for abstracts appear in *italics* in parentheses for articles with abstracts. If an article is written by two or three authors, each author is listed separately; if by four or more authors, it is listed under the first author only, followed by *et al.*

The list, produced by computer, is alphabetized letter by letter; the entry is then truncated to the last name and initials. This method leads to such anomalies as: (1) an author may be listed twice if only initials appear in one article and full name(s) in another; (2) alphabetization may appear to be incorrect on the second initial.

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Soviet Economic Growth: 1928–1985*

By GUR OFER

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To the memory of Simon Kuznets, my teacher and dear friend.

I. Introduction

SINCE THE BOLSHEVIK REVOLUTION OF 1917, the Soviet Union has transformed itself through an intense drive for economic modernization, from an undeveloped economy into a modern industrial state with a GNP second only to that of the United States. During that period the Soviet economy grew by a factor of ten and the level of GNP per capita grew more than fivefold. Its industrial structure has changed diametrically, from an economy with 82 percent rural population and most GNP originating in

agriculture to one that is 78 percent urban with 40–45 percent of GNP originating in manufacturing and related industries. Furthermore, Soviet military capability is considered to be on a par with that of the United States.

At first glance, the Soviet case seems to be a classical example of economic modernization. In spite of this, many international comparisons of modern economic growth exclude the Soviet Union and the other communist countries. Hollis Chenery and Moises Syrquin (1975, pp. 11–16) exclude them owing to “problems of comparability,” without specifying

* This survey of modern Soviet economic growth is based almost exclusively on Western works and does not include direct references to Soviet scholarly work. It is directed to the general public of economists, and therefore contains a section (II) on sources of economic information about the Soviet Union and a number of subsections, like the one describing the basics of the operation of the Soviet system, that are only indirectly related to the main issue. I hope they will provide useful background for the general reader. The amount of relevant literature on the topic is immense, but there seems to be a considerable degree of agreement on the main issues. Two results follow: first, not all the works that probably should have been cited are included, and I beg the indulgence of the authors of such works. Second, in many places I choose to present issues and views as representing the general consensus of the field, or, at the other extreme, my own views. I try to make clear which is which. In case of doubt, I take personal responsibility for unattributed statements. One example of a partial contribution of my own is the article's extended attention to the theme of “haste” as

a major force driving many elements of the Soviet growth strategy and system.

A major part of the survey was prepared during a stay at the RAND Corporation in the summer of 1985, under the auspices and with the financial support of the RAND/UCLA Center for the Study of Soviet International Behavior. I wish to thank Arnold Horelick, Gregory Hildebrandt, and Keith Crane of the RAND Corporation for many helpful comments and discussions. I also appreciate the many comments received during seminars at RAND and at the Russian Research Center at Harvard. I am most grateful to Abraham Becker, Abram Bergson, and Moses Abramovitz, who followed the survey since its inception and through a number of drafts. The fruits of their many comments, corrections, and suggestions are evident throughout the paper and in many omitted sections. Simon Kuznets, before his death, took a very active part in shaping the scope and structure of the paper. Adele Zarnati, Judith Goldberg, Nancy Weber, and Maggie Eisenstadt put much effort into editing and typing, and Adi Brender helped with the tables. Thanks to all.

ing what is noncomparable. Simon Kuznets (1963), who did compare the Soviet record to the Western one, nevertheless hesitated to include it in his general studies "because the social structure and the institutional means by which economic growth is secured in communist countries are so different" (Kuznets 1971a, p. 10; see also Kuznets 1966, pp. 400, 508; 1963, pp. 367-72).

The aim of this paper is to present and evaluate Soviet economic growth as it appears in the specialized "Western" literature, in a framework of "modern economic growth" as developed by Kuznets (1966, 1971a), Alexander Gerschenkron (1962, 1968), and many others. Does the Soviet experience belong to this general paradigm? Whether it does or not, how does its experience compare with that of the major (or minor) Western countries? What are the implications of the differences found for past records and for future prospects? Modern economic growth is perceived as a general framework, a wide concept, within which many variants and diverse itineraries are accepted and tolerated provided that certain essential features are present. A case in point is the distinction between leaders and followers, where latecomers face different internal and external environments calling for special growth strategies. The Soviet Union is a classical follower, whose experience among others served Gerschenkron and others in shaping a theory of the pattern of economic modernization. In fact, Gerschenkron (1962, 1968) made "following" in the context of the European experience a sort of monotonic variable where the particular pattern of economic development is determined, among other things by the relative degree of lateness in a given country's development.

In addition to the country's rank in the development queue, growth patterns can be affected by differences in histori-

cal background, in national culture and, of particular interest here, by different economic and political systems and international aspirations. It was the Soviet Union's authoritarian regime and its particular "socialist" economic system that caused Kuznets to exclude it from his comparative studies. The Soviet mode of development was introduced in the late 1920s, when it was heralded as superior, as promising to become the wave of the future, and as a model for other undeveloped countries. At the same time counterclaims were being voiced: that modernization cannot be achieved without basic freedoms and that central planning is inherently inefficient and bound to fail.¹ So far, history has proved both extreme claims wrong, but the debate on whether the Soviet system is capable of sustained economic development still rages on. We shall therefore pay particular attention to the effects of the economic system and the political regime on patterns of economic modernization.

Until the late 1950s, the era of rapid Soviet growth and of Sputnik, the main question among Western scholars was: *When* would the Soviet Union catch up with and overtake the U.S.? Even sober and careful scholars like Abram Bergson (1961, pp. 297-98) did not exclude the possibility that this might be fairly imminent. Today, however, after more than two decades of declining growth rates (down to 1.5 percent GNP growth recently), the question is whether the present system can support sustained economic growth in the future, or whether it is capable of changing radically enough to assure such growth. This question is posed not only by specialists on either side of the iron curtain, but by Mikhail Gorbachev himself, who is embarking on

¹This and related issues are at the heart of the "Socialist controversy." See Friedrich A. Hayek 1963; Ludwig von Mises 1974; and Oscar Lange 1938.

a program designed to prove that it can. It is still not clear whether Gorbachev will be able to start a truly new era of Soviet general and economic history. It is, however, an appropriate time to summarize the past record and to evaluate the problems to be faced in the future.

Because this is not the place to survey the large volume of Western literature on economic modernization and modern economic growth, Kuznets' synthesis and summary framework will serve as its representative.² Modern economic growth (MEG) as defined by Kuznets (1966, p. 1) "is a sustained increase in per capita or per worker product, most often accompanied by an increase in population and usually by 'sweeping structural changes' of a multidimensional nature;" it is driven by the "epochal innovation" which consists of "the application of science to the problems of economic production" and to "the material satisfaction of wants" (Kuznets 1966, pp. 9, 11). Scientific advance and its application to production are the driving force of MEG; they assure sustained growth and growth in per capita income and make for permanent structural change. They also generate further scientific advances (Kuznets 1966, 1971a). The qualitative dimensions assigned by Kuznets to the growth parameters and the particular kinds of structural changes in the economic, social, and political spheres occurring as MEG sets in will be discussed later. Here we emphasize only the everchanging nature of the structure of the economy and society under MEG caused by the constant shift in leading sectors and in the focus of economic activity and by the character of technological changes.

For Kuznets (1966, Chs. 8, 9), S. Noah

Eisenstadt (1973, 1985), Walt W. Rostow (1960, 1963) and others, MEG, as a major historical departure, originated in Western Europe and spread to other regions by virtue of its clear dominance in both economic and military spheres. But conditions in the latecomers differ in many respects from those in the more advanced countries at the time each entered the process of modern economic growth; and the mere existence of advanced countries also changes the environment of MEG for followers, so that it is likely to take a somewhat different course from that followed by the early starters. That is why Gerschenkron (1962, Chs. 1, 2, and pp. 253-366; 1968, Ch. 9) developed his theory according to which the nature of MEG in Europe varies with the level of economic backwardness at the time MEG sets in. The starting conditions of a latecomer create two sources of tension: One is the desire to narrow its income gap relative to the most advanced countries; the second is the greater difficulty in takeoff because of poorer preconditions for growth than those of leading countries at their starting point. The more backward the country at its starting point, the higher the tensions. Tension breeds impatience, which leads to more drastic, radical, even revolutionary, discontinuous steps in all spheres—economic, political, and social. Impatience and different preconditions also lead to the choice of different growth paths. A major example is the choice to start with industrialization and to postpone changes in agriculture. An advantage that offsets some of these difficulties for a latecomer is the opportunity to borrow technologies from the advanced countries without going through the costly and time-consuming process of developing them from scratch. This advantage, first noticed by Veblen, though real, is not costless and its fruitful exploitation also depends on frequently-missing preconditions (Mad-

² For a short survey of the main contributions see Angus Maddison 1982, Ch. 1. See also Walter W. Rostow 1960 and the many volumes of argument on his theory.

dison 1982, pp. 107–08). Finally, like any case of transfer and diffusion of a major innovation, success depends on the mutual relationship between the partners and on the form of transfer.

As noted, the Russian and the Soviet cases are important historical examples on which Gerschenkron based his theory. The government-led industrialization drive during the last decades before the Bolshevik revolution is a case in point. The revolution; the authoritarian-dictatorial regime; the central direction, management, and control of the economy; the strategy of “industry before agriculture”—all these and other aspects are extreme manifestations and outcomes of aggravated tensions. In a sense, the acceptance and application of Marxist ideology as a major vehicle of the Western concept of rapid industrialization and its reshaping into Soviet socialism to fit the needs of a relatively backward country with high aspirations also fall into the framework drawn by Gerschenkron (1962, Chs. 6, 7; 1968, Ch. 7; and 1971). With international fears and aspirations, the urge to prove the superiority of socialism and, possibly, also the character of the leaders, the Soviet case is clearly an extreme one even in Gerschenkron's framework.

Most of the major decisions on the development strategy of the Soviet Union and on the nature of the regime were made in the 1920s and in the early 1930s. But, as we shall see, their impact can be observed in Soviet patterns of behavior to this day.

A short discussion of the sources of economic information on the Soviet Union and their reliability (Section II) is followed by a survey of its growth record (Section III) and of the major structural changes in the Soviet economy (Section IV), both in a comparative setting. Sections V and VI discuss the elements of the Soviet system, its growth strategy,

and the major economic policies that determine its growth patterns. The following section (VII) focuses on the explanation offered in the literature for the declining growth rates of the Soviet Union. The discussion makes use of both production function estimates and growth accounting. The concluding section discusses the Soviet system's prospects of reversing the declining trend and assuring sustained growth, in the light of changes and reforms that may be needed. It takes some notice of the reforms that are being introduced by Gorbachev.

II. *Availability and Reliability of Information*

More economic information emanates from official Soviet sources than is generally believed. While the amount is a far cry from what is usually available for free countries, it is often more than is available for many less developed countries. In most instances, information is unavailable because it is withheld from the public, internal or external, and not because it was not compiled. In a centrally planned system, very detailed economic information on the operation of economic units or sectors is essential for planning and for control. It must be transmitted through all stages of the hierarchical ladder and in many cases also via public media channels.

Nevertheless, Western students do face a serious problem in obtaining Soviet economic information. Furthermore, in most cases, even when the needed data are available, they need a great deal of checking, reestimating, and manipulating before they achieve the minimal standards of reliability and usability. Following a brief survey of what is and is not available, this section discusses the main reasons for the low usability and questionable reliability of much of the data

and the steps being taken in the West to overcome these problems.

With few exceptions, the information available to the West on the Soviet economy comes from Soviet official publications and sources. The major publication is the annual *Statistical Yearbook*, issued for the Soviet Union as a whole and for each republic and some lower regional units separately. Occasional special yearbooks or statistical compendia are devoted to a particular area: agriculture, education, labor, and the like. One of these is on Soviet international trade (*Vneshnaya Torgovlia*), which presents very detailed trade statistics by type of good and country, and is issued every year. Another important source of information is the publications of the returns of the population censuses taken in the Soviet Union approximately every decade (1939, 1959, 1971, 1979). Many journals publish economic information, either in a special appendix, like the *Vestnik Statistiki*, the official journal of the Central Statistical Administration (CSA), or as an integral part of ordinary articles. Finally, economic information is available from newspapers, from other mass media, and from books and other publications.

In some spheres the West gathers information on the Soviet Union in less conventional ways, ranging from interviewing émigrés, such as was done by the Harvard Project in the 1950s, the Israeli Soviet Interview Project (ISIP), the American Project (SIP), to collecting information (such as on prices) during visits to the Soviet Union, estimating the grain crop or other visible objects using pictures taken from satellites, and other clandestine methods.

The availability of economic information on the Soviet Union has varied quite drastically over time according to the degree of general openness of the system. Information was readily available during

the 1920s but severely restricted during most of Stalin's era. During the dark era of the late 1930s and up to the mid-1950s, even basic economic information, like the *Statistical Yearbook*, was unavailable and it took great efforts to screen large volumes of publications and "read between the lines." The flow of information was renewed in the mid-1950s and reached its peak during the mid-1960s, followed by more and more restrictions, mostly in specific areas, imposed by the Brezhnev administration. Beginning under Andropov and picking up steam since Gorbachev, the pendulum has swung again toward more openness. Gorbachev's call for more publicity, openness, and accessibility of information (*glasnost*) and more open criticism and debate relates first and foremost to the economic sphere and is bound to raise the level of available information (Timothy Colton 1986, pp. 160–64).³

This discussion on the availability and reliability of Soviet data relates mostly to the post-Stalin era. With regard to availability, first of all, data on the Soviet defense effort, very broadly defined, are unavailable. Other sensitive spheres are also classified secrets. A recent example of the latter is the suppression, since the late 1970s, of previously provided information on trade in crude oil with individual countries. Second, "embarrassing" information is suppressed. The system, which declares one of its main goals to be a high level of income equality, publishes scant and not very revealing data on this topic. It is known that such data are regularly compiled by the CSA. Another example is the suppression for a number of years of detailed data on infant mortality (and other demographic changes), when these rates started to rise

³ Jan Vanous (1987), however, demonstrates a deterioration in the quality and consistency of national accounts figures produced by the Soviet Central Statistical Administration during 1985 and 1986.

in the early 1970s (Christopher Davis and Murray Feshbach 1980; Feshbach 1985). In general, much data on negative social or economic phenomena are suppressed, including most data on activity in the "second economy."

A third type of data that are very difficult to obtain from Soviet sources are microdata on the behavior of individual economic units, households, or firms. Here, the various interview projects mentioned above are of value. Most of the official economic data are highly aggregated, and most published analyses are restricted to tables classified by one or two explanatory variables. It is also not easy to acquire detailed data on individual prices, and very difficult to receive systematic data on price compilations and other economic calculations.

Finally, whether as part of the secrecy screen, or for other reasons, much information published by the Soviet authorities is partial and presented in obscure, cryptic, or incomplete fashion. Percentage breakdowns with no information on absolute levels and with wide leftovers of undefined residuals are very common. The breakdown in many incomplete series does not add up to the total. The balance-of-payments data are restricted to trade in goods, with no information on trade in services and on the capital account, so that no balance-of-payments accounts can readily be estimated (Vladimir G. Trembl and Barry L. Kostinsky 1982).

This last point takes us from the question of availability to that of the quality, usability, and reliability of published information. Outright use of Soviet official data is in many cases impossible because of a number of problems: first, uncertainty regarding the quality and reliability of the information received and collected by the central Soviet authorities from the field. Next comes the major question of the conceptual and methodo-

logical frameworks and the particular sets of definitions used in order to organize, aggregate, and compile economic data series. Finally there is the critical question of truth in reporting: To what extent is false reporting used in the service of internal or external political and public-relations goals? The secrecy cover over the work of most agencies producing economic information causes difficulties in giving definite answers to these questions or to the understanding of the exact source of the problem with the data. All this imposes on interested parties in the West a heavy burden of interpreting, checking, and recalculating much of the presented data before it can be meaningfully used.

The literature mentions two specific sources of possible biases in data reported to or collected by the central Soviet statistical agencies. The first stems from the fact that in many cases the units that report and transmit economic information to higher echelons are judged and remunerated on the basis of their reports. The problem is also present to some degree in many other countries, for example, the reporting of personal income for tax-collecting purposes. In the Soviet Union this problem pervades almost the entire economy. The second bias is created by peculiarities, probably motivated by propaganda or ideological considerations, in the design of samples for official statistical surveys and inquiries: The structure of the family-budget survey is biased in favor of families with two or more working members; the sample of collective farm markets is biased in favor of certain locations.⁴

⁴ See Vladimir G. Trembl and John P. Hardt 1972; Alastair McAuley 1979, Ch. 3; Stephen Shenfield 1982; Trembl 1985. A very interesting and revealing article on false reporting and many other serious shortcomings of Soviet statistics appeared in the Soviet journal *Novy Mir* in February 1986 (Vasily Selunin and Gregory Khanin 1987).

With regard to the question of true reporting, most Western scholars seem to agree that the Soviet Union does not keep two sets of books or two sets of economic accounts, one to use and another to publish for propaganda purposes. Such an endeavor is first of all very expensive and burdensome, and secondly, two sets of economic information would cause serious confusion. Published data are used so extensively by decision makers and control offices at all levels, that double bookkeeping, as a general practice, is inconceivable. It follows from the argument that the reliability of data may be assumed to be higher the closer it is to the decision-making and control apparatus, and vice versa. It may be assumed that less aggregated series, especially those defined in physical terms, are more directly related to the operation of the system, while the more aggregated series, denominated in monetary terms, are less so connected. This could be one reason why the latter, such as data on national accounts, general price indices, are considered much less reliable by Western students and are, indeed, subject to extensive reestimation.

Propaganda is most often served by publishing the better economic results and restricting the publication of failures; by manipulating information to provide half-truths rather than outright lies; and by carefully choosing definitions, methodology, concepts, and variables in terms of which information is published. All this makes some of the Soviet data, while still "reliable" in a formal sense, hard to interpret and use in Western research; in some cases the data are deliberately misleading, and in some cases the system may, so to speak, cheat itself. The most notorious example comes from Stalin's era, when harvest reports were given in terms of grain in the field, before harvesting and threshing losses. The definition has since improved (reports are

made post-harvest), but still does not fully accord with Western usage. The reported figures are still inflated, and Western students must engage in guess-timates to translate them into terms of grain in silos, the acceptable definition in the West. Another extreme example where a definitional problem becomes an open evasion is the entry for Soviet defense expenses in the federal budget. According to Western estimates this entry (with or without a Soviet conceptual meaning) is but a small part of total defense spending, which does not even reflect trends over time. Some scholars are searching for a definition of defense spending that may be consistent with the budget entry as given (Peter J. D. Wiles 1985).

In many cases, definitions of terms differ from common Western practice not only for propaganda reasons but also for ideological or practical purposes. A major example is the entire system of national accounts which, following Marxist doctrine, excludes most services from national product on the grounds that they are "nonproductive," and excludes interest on capital from national income because it is a nonlegitimate factor payment. A probable example of expediency is the wide use of gross production series, including intermediate uses, as major indices of production results. Even without questioning the motivations for the difference in each case, much effort is required to make Soviet data comparable and consistent with corresponding Western concepts and data. In many cases such efforts are severely hampered by the fact that the definitions and conceptual frameworks are withheld or obscured. At times changes in definitions or scope are also made without much warning or publicity.

A third major difficulty in the interpretation of Soviet data is the different meaning of prices in the Soviet system. First,

almost all prices are determined by the central authorities, not by market forces, according to some kind of average cost *plus* a profit norm where costs exclude rents and at least some interest charges. Consequently, prices are not as a rule scarcity prices. When goods must clear markets, as in the consumer sector, taxes are added to factory or wholesale prices. Convenience of accounting and control and difficulties in making frequent calculations in order to change prices result in an administratively determined price stability, taken individually or as price indices.

Most price changes occur in periods of "price reforms," which happen every ten or fifteen years. This is not the place to discuss the allocative problems and distortions caused by nonscarcity prices, but we should note that because most economic data involve the use of prices it is quite difficult to evaluate economic magnitudes and to compare them with corresponding magnitudes in countries where prices are nearer to market prices.

Enormous efforts have been made over the years to estimate "adjusted factor costs" in the Soviet Union that would correspond to conventional Western definitions (Bergson 1961, Chs. 8, 11), but these cannot hope to correct all distortions fully. Stability of prices over time may be an advantage when time series are estimated and evaluated, and in this respect Soviet prices are an asset. The caveats are that official prices do not usually reflect actual costs, and in a country where prices fixed at the top are combined with excess demand for goods, hidden inflation is bound to set in. The problem of hidden inflation becomes even more serious because of the peculiar Soviet practice of calculating many price indexes, apparently by combining new products into the indices at too high (later year) initial prices. In this way, quantity indices are biased upward while price

indices are biased downward. As we shall see, this problem is most serious in the machinery production sector, where the physical series for individual machines show much more moderate rates of growth than does the aggregated quantity index (Gerschenkron 1962, p. 263). Because the outcome serves mainly propaganda purposes, it is hard to dismiss the assumption that this peculiar methodology was deliberately chosen primarily to serve such purposes. All these factors make it very difficult to estimate correct price indices or to evaluate the contribution of hidden inflation to Soviet economic achievements.

In view of the above, and because it is most important for the U.S. and the West to have reliable economic information on the Soviet Union, it is not surprising that Western countries and scholars, and especially the U.S., have been investing substantial resources to collect and interpret this information for the use of policy makers and scholars. First priority is given to the estimation of the Soviet defense budget; the system of Soviet national accounts and general economic performance come second. The CIA, the Census Bureau, the Department of Agriculture and many other U.S. government agencies, the RAND Corporation and many nonprofit research outfits, and Russian research centers in many big universities have joined with a number of profit organizations to reveal the Soviet economic picture. In addition to regular statistical series, a number of macroeconomic models or frameworks for the Soviet economy are used as analytical tools to study and understand past changes and to predict future developments.

The methods used to check the reliability of Soviet economic data or to reestimate them vary, of course, in accordance with the quality of the initial data and the nature of the problem. Most such

Processes entail some common steps: Soviet data are checked for consistency with relevant available Soviet sources. As far as possible aggregate magnitudes are reconstructed on the basis of Soviet quantity series of individual items, individual Soviet prices or values, and in conformity with definitions and methodologies common in the West. This combination of disaggregated Soviet physical series and individual prices within a Western conceptual framework produces a body of data that is both reasonably reliable and compatible with corresponding data on Western countries.

More details on the outcome of these Western efforts are given in the following sections, where specific data categories are presented and discussed. As we shall see, despite the great efforts invested in collecting, understanding, recalculating, and checking the Soviet sources, many ambiguities, doubts, blank spots, and disagreements remain. Nevertheless, the reader who wonders at this point whether he or she should proceed any further can, I think, be reassured by a general agreement among researchers in this field that we do have a basically sound body of economic data about the Soviet Union which is also comparable with similar records of market economies.⁵

⁵ Older studies on the reliability of Soviet economic formation are Bergson 1947, 1953a; Gerschenkron 1953; Alec Nove 1964. A relatively recent contribution to this field was made by Trembl and Hardt 1972. Information based on Soviet input-output data is presented and analyzed in Trembl and Hardt 1972; Trembl 1977; A. Tretyakova and Igor Birman 1976. A recent summary of Soviet national income definitions and comparison with Western GNP definitions is CIA 1978). Systematic series on Soviet national accounts and the economic magnitudes are presented in CIA 1983) and JEC (1982a) and in the CIA's annual *Handbook of Economic Statistics*. A description of Western macro models of the Soviet economy appears in Hilbrandt (1985a). The most comprehensive effort is a reconstruction of the Sovmod model (Donald Green and Christopher I. Higgins 1977), now with a number of offspring. Other relevant sources will be cited below.

III. The Growth Record

In this and the following section the Soviet growth record and structural changes are presented and compared with the experience in the non-Socialist world and with general quantitative frameworks of "modern economic growth" of market economies, such as the one formulated by Kuznets. Before embarking on the analysis itself, however, we must establish the basis for such comparisons. A common pattern of such studies is to compare the growth record of the country under investigation with that of other countries "at a similar stage of development." The initial working hypothesis is that if, other things being equal, the growth record investigated conforms to the general, typical, or "normal" pattern, and because each individual country deviates from the average pattern, these deviations, if significant, form the basis for investigation into their causes (Kuznets 1971a; Chenery and Syrquin 1975; Ofer 1973).

The main dependent variable in most comparative studies, and their main normalizing criterion, is GNP per capita, which is accepted as the best, though far from ideal, single variable capturing many developmental features. The first step is thus to establish the level of Soviet GNP per capita in a comparative setting. A recent extensive CIA effort to compare the Soviet and U.S. economies between 1956 and 1977 estimates Soviet GNP in 1975 at 62 percent of the U.S. level (Imogene Edwards et al. 1979, pp. 381-83). Data on later years are obtained by adjusting this figure according to Soviet and U.S. growth rates of GNP and GNP per capita to the desired date. These calculations produce a USSR/US GNP per capita ratio of 50.3 percent for 1980. The

low. A reconstruction and reestimation of Soviet national accounts according to Soviet definitions was compiled by PlanEcon (*PlanEcon Report 1986*).

comparison is based on the purchasing power parity (PPP) method, and the figures given are the geometric mean between the comparisons in ruble weights and those in dollar weights.⁶ This estimate provides a link to the study of Irving B. Kravis et al. (1982), where international GNPs and some subaggregates are estimated and compared, all based on PPP. The countries classified in this source as Groups IV and V (Kravis et al. 1982, p. 22), from Spain, the poorest, to West Germany, range between 54 and 81 percent of the U.S. level in 1975,⁷ and are appropriately compared to the Soviet Union.

Comparisons are also made with the European members of OECD (E-OECD; OECD 1982) and with the industrial market economies (IMEs), as defined by the World Bank (The World Bank 1984). Most of the countries included in all three groups, which overlap one another to a considerable degree, belong to a similar range of GNP per capita mentioned above, though some exceed it.⁸ Special comparisons are also carried out with the U.S., as these are of obvious interest.

Finally, further comparisons are made using the set of development equations estimated by Chenery and Syrquin (C & S 1975). These regressions are based on data from some 100 countries in 1959-69. In each case the Soviet level of the relevant variable is compared with the level estimated from the regression and then the differences are evaluated. The C & S regressions use GNP per capita levels in 1964 U.S. dollars, converted from local currencies at official exchange

rates. Kravis (1982) has demonstrated the weaknesses of official exchange rates, but has also found that in most cases the ordinal ranking between countries is not affected. We have estimated the Soviet GNP per capita levels (in 1964 U.S. \$) at about \$300 in 1928, about \$600 in 1950, \$850 in 1960, \$1,250 in 1970, and about \$1,500 in 1980.

The main parameters of the Soviet growth record and the accompanying structural changes in 1928-83 are presented in Tables 1-4. I chose 1928 as the initial point for two reasons: (a) the Soviet Union regained its prewar (1913) production level approximately then, and (b) this was also the initial year of the first Five Year Plan (FYP), which embodied the new Soviet growth strategy. The year 1928 is also the starting point of most Western efforts to estimate the Soviet growth record. As explained in the notes to the tables, most of the estimates relate to national accounts and input changes based on the works of Bergson and the team at the Office of Soviet Analysis (previously the Office of Economic Research) at the CIA. In both cases the data are the culmination of many years of research in academia, research institutes (notably the Rand Corporation), and various U.S. government offices. The present estimates were preceded by many earlier calculations belonging to the same main line of effort.⁹ Earlier estimates may differ from the results presented here partly because, with time, more information has been accumulated and methodologies have improved, and partly because the base-year of the series has been moving forward. We discuss alternative esti-

⁶Rates of economic growth in the Soviet Union and in the U.S. are taken from the same sources as for the corresponding data in Table 3.

⁷The figures are the geometric averages of comparisons in U.S. and in the relevant country's prices (Kravis et al. 1982, pp. 230-32, Table 7.2).

⁸The IMEs range from Iceland at the bottom to Switzerland at the top.

⁹Bergson 1953b, 1961; Morris Bornstein 1959; Abraham S. Becker 1969; Stanley H. Cohn 1970, 1976a; Bergson and Hans Heymann, Jr. 1954; Nancy Nimitz 1962; Oleg Hoefding and N. Nimitz 1959; Sally Anderson 1968; Richard H. Moorsteen and Raymond P. Powell 1966; Norman M. Kaplan 1966; as well as Rush V. Greenslade 1976, who led the CIA team for many years.

mates only if the differences are important. Unless otherwise specified, all definitions of variables are in accordance with common Western practice.

A. *Growth of Output*

The annual average growth rate of GNP during the 57 years since 1928 (line 1, Table 1) was 4.2 percent, or 4.7 percent when the five World War II years are excluded. The growth rate of population over the period (line 11) averaged 1.3 percent, giving 3.0 percent of annual growth of GNP per capita (line 12). All these rates are just above the upper limit of Kuznets' respective ranges for modern economic growth (1966, pp. 490–92) and were achieved despite somewhat faster rates of population growth than Kuznets' "norm." Hence, this growth record clearly qualifies as "sustained." True, since World War II there has been some acceleration in the growth rates of many countries, but the Soviet record is still among the best for such an extended period.

The second major feature revealed by Table 1 is the sharp decline in growth rates over time. GNP growth rates decline more than half, from 5.7 in the 1950s to 2.0 percent in the early 1980s (line 1). The corresponding figures for GNP per capita are 3.9 and 1.1, respectively (line 12). This decline and the very low recent rates have been a special cause for concern among the Soviet leadership for some time (e.g., Mikhail Gorbachev 1986, pp. 29–32) and a focal point of research and argument for students of the Soviet Union both in the West and in the Soviet Union itself. Much of what follows in this survey is related, in one way or another, to this major issue. Is the decline cyclical? Is it normal? Is it caused by the particular Soviet growth strategy? Can the Soviet Union sustain its military position and its internal stabil-

ity with such low rates? Can the trend be reversed, and how?

When compared with the growth record of other countries (Table 2) the Soviet record is generally better during the prewar period and less impressive during the postwar period, and is consistently better for GNP than for GNP per capita.¹⁰ The Soviet record is almost always superior to that of the U.S., even when comparing the Soviet record in 1928–55 to the U.S. record during the last decades of the nineteenth century, when both countries were at similar stages of economic development (Bergson 1963, pp. 6–7). From 1950 to 1980 annual growth rates of Soviet GNP were slightly higher than those for the E-OECD and the IME groups (1960–80 for IMEs). The annual growth rates of Soviet GNP per capita were similar to those of the E-OECD and IME groups. For the decade 1970–80 the Soviet record is even less distinguished by comparison. (All comparisons are along lines 1 and 5 of Table 2.) The comparison of average growth rates for groups of countries in the West conceals the fact that a number of countries have growth records (GNP per capita) superior to that of the Soviet Union, like West Germany, Italy, France, Austria, Spain, Greece and others.¹¹ Maddison (1982, pp. 43–46, 102–09) articulated the theory that follower countries may have the opportunity to grow faster than leaders. If so, one should have expected the Soviet record to be better than that of E-OECD or IME, but at least since 1950 it was not.

Much of the development literature treats changes in GNP per capita and per

¹⁰ For prewar and postwar comparisons not included in Table 2 see Kuznets 1963, pp. 334–42; Bergson 1963, pp. 6–7; and John Pitzer 1982, p. 20.

¹¹ Between 1950–1990. See the sources cited in Table 2; Pitzer 1982, p. 20; and Maddison 1982, p. 44.

TABLE 1
GNP, INPUTS, AND PRODUCTIVITY, 1928-83
(ANNUAL RATES OF GROWTH)

	1928-83 ^a	1928-40	1940-50 ^b	1950-83	1950-60	1960-70	1970-75	1975-80	1980-85
1. Gross national product	4.2 (4.7)	5.8	2.2	4.3	5.7	5.2	3.7	2.6	2.0
2. Combined inputs	3.2 (3.4)	4.0	0.6	3.6	4.0	3.7	3.7	3.0	2.5
3. Labor (man-hours)	1.8 (1.9)	3.3	0.7	1.4	1.2	1.7	1.7	1.2	0.7
4. Employment	1.9 (2.0)	3.9	0.3	1.5	1.6	2.1	1.5	1.2	0.7
5. Capital	6.9 (7.5)	9.0	0.4	8.0	9.5	8.0	7.9	6.8	6.3
6. Land	0.8 (0.8)	1.6	-1.3	1.1	3.3	0.2	1.0	-0.1	-0.1
7. Total factor productivity ^c	1.1 (1.2)	1.7	1.6	0.7	1.6 (1.4)	1.5 (0.9)	0.0 (1.5)	-0.4 (-0.8)	-0.5 (-1.2)
8. GNP per hour worked	2.4 (2.6)	2.4	1.5	3.0	4.4	3.4	2.0	1.4	1.3
9. GNP per employed	2.3 (2.5)	1.8	1.4	2.8	4.0	3.0	2.2	1.4	1.3
10. GNP per unit of capital	-2.4 (-2.6)	-2.9	3.4	-3.3	-3.5	2.6	-3.9	-3.9	-4.0
11. Population	1.3 (1.4)	2.1	-0.8	1.3	1.8	1.3	0.9	0.8	0.9
12. GNP per capita	3.0 (3.3)	3.6	2.9	3.2	3.9	3.9	2.7	1.8	1.1
13. Investment	7.3 (8.1)	9.6	5.6	7.0	11.4	6.8	5.4	4.3	3.2
14. Defense	7.1 ^d (7.1)	26.6	-0.8	3.2 ^e	-2.1 ^f	6.1	3.8	2.6	2.2 ^g
15. Consumption (a) ^h	3.3 (3.6)	3.1	1.5	3.9	5.3	4.5	3.7	2.7	2.0 ^h
16. Consumption (b) ^h	3.8 ^d (4.1) ^d	3.5	1.7	4.6	6.1	5.1	3.8	3.1	2.0 ^h
17. Household consumption (b) ^h	3.6 ⁱ (4.0)	1.9	1.7	5.0 ^j	6.3	4.8	4.0	3.2	—
18. Communal services (b) ^h	5.6 ⁱ (6.3) ⁱ	13.8	1.9	3.8 ^j	4.2	5.1	2.4	2.4	—
19. Consumption per capita (16)/(11)	2.3 (3.0)	1.4	2.5	3.3	4.2	3.8	2.9	2.3	1.1 ^k
20. Household consumption per capita (b) (17)/(11)	4.2 ⁱ (2.6) ^j	-0.2	2.5	3.7 ^j	4.4	3.5	3.1	2.4	—
21. Consumption per employed (16)/(4)	2.0 (2.2)	-0.4	1.4	2.9	4.4	2.9	2.3	1.9	1.3
22. Value added of A sector ^l	1.8 (1.9)	1.6	0.0	2.3	4.4	2.2	0.9	-0.2	2.0
23. Value added of M sector	6.2 (6.9)	9.2	3.3	6.1	9.6	6.2	5.9	3.2	2.3

TABLE 1 (continued)

	1928-85 ^a	1928-40	1940-50 ^b	1950-85	1950-60	1960-70	1970-75	1975-80	1980-85
24. Value added of S sector	4.3 (4.6)	6.9	1.9	4.1	4.3	5.3	4.3	3.0	2.1

Sources: 1928-1950: GNP is in "ruble factor cost" of 1937, as in Bergson (1961, Table 51, p. 210). Population: Bergson (1961, Table 60, p. 230). GNP per capita is computed, but also consistent with Bergson (1961, Table 72, p. 264). Inputs are from Bergson and Kuznets (1963, Table 1.2, p. 6). Employment is estimated as closely as possible to full-year equivalents (line 4), and then adjusted to take account of changes in hours (line 3). It includes military forces but excludes forced labor. Capital refers to "reproducible fixed capital" and excludes changes in livestock inventories. Because livestock was declining, the inclusive figures are slightly lower. Weights: Bergson's original weights (1961, p. 19, set A) were used as a base. They assume that return on capital is 20 percent and that land rent amounts to 40 percent of agricultural wages. Because Bergson's weights are for net national product, we have adjusted them to account for GNP by adding the appropriate amount of depreciation to returns from capital and to the total (15 billion rubles in 1937, according to Bergson 1961, p. 144). When also forced labor is excluded the rate of growth of combined inputs comes to exactly 4 percent, and when it is included it comes to 4.3 percent.

End-use categories: All categories at ruble factor cost of 1950 are from Bergson (1961, Table 51, p. 210). Consumption in established prices is from Bergson (1961, Tables 16, 18, pp. 85, 93).

Sector of origin: "A" stands for agriculture and forestry; "M" for mining, manufacturing, and construction; and "S" for all other branches. The data for 1928-50 are from Kaplan (1969, Table 1, p. 5, and Table A-6, p. 123).

1950-85: GNP, population, GNP per capita: 1950-80—Pitzer (1982, Table A-6, pp. 65-67, and Table A-9, pp. 72-74). 1980-85—CIA (1986, Tables 39, 40, 43, pp. 67, 70). All GNP figures are at 1970 factor cost, except for 1980-85, which are at 1982 factor cost.

Inputs, 1950-83: Labor force (line 4) defined as full-time civilian employment plus military personnel. The former is from Rapawy (1985, Table 4, p. 8); and the latter from Feshbach and Rapawy (1976, Table 8, p. 132). In line 3 the figures are adjusted to account for changes in hours, as in Rapawy (1985, Table 9, p. 18). Capital inputs are for fixed capital, plus livestock, in "comparable prices" of various years as in Soviet official series (Narkhoz 1971, p. 60; 1983, p. 48). Land is measured by area under cultivation, not farmland or arable land, which are used more commonly in the West. Combined inputs are weighted using Bergson's weights of 0.62 for labor (measured in hours, line 3), 0.33 for capital, and 0.05 for farmland (1982, p. 37). Data for 1980-85 are from (CIA HB, 1986, Table 43, p. 70).

End-use categories (except defense) and sector of origin: 1950-80—Pitzer (1982); 1980-85—CIA, HB (1986, Tables 37, 39, 40, pp. 66-67). Figures on consumption in established prices are from Schroeder and Denton (1982, Tables 3, 4, p. 329). The defense series is from Becker (1986, Table 1, p. 4).

Note: As emerges from the notes below, the data for 1928-50 are not fully consistent with those for 1950 on. We have reason to believe that basic trends are not seriously affected by these inconsistencies. The overall figures for 1928-85 are simply the sum of the changes over the subperiods.

* Figures in parentheses in this column are calculated on the basis of only 50 years, excluding the World War II years.

* This period covers World War II years and the following reconstruction period; therefore many of the figures are averages of extremely different magnitudes. For example, GNP stagnated over 1940-44 and grew at 3.6 percent per annum over 1944-50; the corresponding figures for population growth are -2.7 and 0.5 percent, respectively, giving 2.7 and 3.1 percent per year for growth of GNP per capita for the two subperiods.

* Figures in parentheses in this line (except for 1928-85) are CIA estimates of total factor productivity, based on an alternative set of weights: 0.558 for hours, 0.412 for capital, and 0.03 for land (CIA, HB, 1984, p. 68). For 1980-85 the weights are 0.512, 0.458, and 0.03, respectively (CIA, HB, 1986, p. 70).

¹ 1928-82.

1955-82.

1955-60.

1960-82.

(a) = at factor cost; (b) = in established prices.

1950-80.

— = not available.

* Based on consumption at factor cost.

For 1950-80—based on five-year averages; for 1950—the average for 1950-52.

main national aggregate, which is more or less the Western concept of net national product (NNP) less the value added of most services. The official growth rate of NNP is 16.7 percent for 1928–37, at 1926–27 prices (Bergson 1961, p. 180), 7.4 percent for 1950–80, and 6.0 percent for 1960–80 at 1950 or later year prices (Pitzer 1982, p. 25). These rates are higher than those estimated in the West. They are explained partly by the definitional differences (about two-thirds of the difference in 1950–80; Pitzer 1982), and partly by Soviet practice, which underestimates price increases in their series. Most notable in Western discussion on the problem is the Soviet practice of introducing new products into constant price series at their high prices at the time of introduction (Gerschenkron 1962, p. 263).¹³

B. Explaining Growth

Unlike growth itself, which conforms with Kuznets' definition of MEG, the

¹³ A discussion of most of the relevant issues appears in Trembl and Hardt (1972, Parts II, V, VI).

A recent Western reconstruction of the Soviet NNP series estimates NNP growth in 1960–80 at 4.9–5.5 percent annually and in 1980–85 at 2.5–2.7 percent (*PlanEcon Report* 1986, p. 25, Table 14). The 1960–80 figure exceeds the GNP rates presented in Table 2 (4.2 percent) by one percentage point, and the figure for 1981–85 is identical to the corresponding GNP figure. The differences in coverage can explain these gaps. This further supports the hypothesis that different treatment of price indices causes some of the gap between official Soviet figures and Western estimates.

At least two Western students of the Soviet economy, William T. Lee (1979a) and Steven Rosefielde (1982), obtain significantly higher estimates of Soviet growth rates. Lee's annual growth estimate of 7.7 percent between 1955–75 and Rosefielde's similar figure are based mainly on accepting the official Soviet NNP series as a measure of growth at constant prices. Their main argument is that the Soviet series should not be deflated by estimates of hidden inflation because the higher prices for new goods, especially equipment, represent quality improvements (Lee 1979a; Rosefielde 1982; see also Rosefielde 1981, 1983). This argument is not accepted by most students in the field (see James E. Steiner 1978, 1982, 1983).

sources of growth of the Soviet economy deviate from the common patterns described by Kuznets. During the entire period, but more so with time, Soviet growth is generated by high rises in inputs and declining growth of overall input productivity. As shown in lines 2 and 7 of Table 1, during the entire period 1928–85 inputs grew at 3.2 percent and contributed 76 percent of total GNP growth, while factor productivity grew 1.1 percent a year, accounting for only 24 percent of total growth. The relative contribution of inputs to growth grew to 80 percent in the postwar period and became its sole component form 1970 on, when productivity completely stagnated or even retreated.¹⁴ The proportions of inputs and productivity are diametrically opposed to those of a normal MEG pattern (Kuznets 1966, p. 491). This divergence from "normal" patterns, as we shall see, lies at the core of Soviet growth patterns and strategy, and is related, as can be seen from the data, to the declining growth trend. Indeed the Soviet experience reveals two sides of this diverging pattern: unusually high growth of inputs and a slow rise in productivity.

Labor Inputs. The main characteristic of labor inputs is that they grow over the entire period at a substantially higher rate than population growth (compare lines 3, 4, 11 in Table 1). While the population increased at an annual rate of 1.3 percent, the number of employed was growing 1.9 percent annually, and hours worked grew 1.8 percent. Only during the 1950s did a reverse order prevail. In this way the rise in labor contributed substantially not only to GNP growth but also to the growth of GNP per capita—not a very common phenomenon. Another result of these trends is an excep-

¹⁴ Likewise, total factor productivity growth accounts for only 37 percent of per capita growth in 1928–83, declining over time from almost half to zero (lines 7 and 12 in Table 1).

tionally high rate of participation in the labor force, much higher than in any other country. In 1980 the Soviet participation rate, measured as a ratio of all those working to the population aged 15-64, was 86.6 percent, compared with 66.5 and 70.9 percent in E-OECD and the U.S. respectively (OECD 1982; Feshbach and Stephen Rapawy 1976; Godfrey S. Baldwin 1979; see also Cohn 1970, p. 66). Much of the Soviet advantage in labor force participation rates comes from the exceptionally high rates for women. These rates rose over the period to nearly 87 percent in 1980, again the highest rate in the world. Comparable rates are 48.5 in E-OECD and 59.7 percent in the U.S. (OECD 1982). The actual gap for women is even wider, as few women in the Soviet Union are allowed to hold part-time jobs, while many do in the West.

The main factors contributing to these trends include the elimination of most legal nonwork income sources; the legal requirement that all able-bodied males have a job; and the enlisting of most women into the labor force by wage policies, ideological education and indoctrination, and the opening of new schooling and occupational opportunities.

Despite a rapid rise in the enrollment of youth in all kinds of schools and despite the low retirement age (55 for women, 60 for men), participation rates increased, because nearly half the students were directed to evening and correspondence schools and thus kept in the labor force (Rapawy 1976, pp. 10-12).

Recently, because the rates of natural increase have declined drastically, special efforts are also made to keep retired persons on the job. Finally, the rise in labor inputs was also somewhat slowed by a rather sharp one-time decline in work hours during the 1950s and early 1960s—from 45 to 40 standard hours per

week in industry (Rapawy 1976, pp. 43-55).¹⁵

One can argue that Soviet-Western comparisons should be made between rates of actual employment rather than participation rates, in order to account for unemployment in the West and its virtual absence in the Soviet Union. The corresponding employment rates for E-OECD and the U.S. for 1980 are 63 and 67 percent respectively, more than 20 percentage points lower than the Soviet figures (Rapawy 1976). The counterargument is that the Soviet Union tolerates disguised unemployment and that this factor shows up as lower labor (and overall) productivity rates. We shall come back to this later.

Even when enlisting labor is entirely successful, rates of growth of employment are bound eventually to gravitate toward the growth rate of population. The secular decline in the latter placed a constantly descending ceiling on the former so that in recent years increments to the labor force are reduced to less than one percent per year and are now bottoming out—down to 0.6 percent per year (Ann Goodman and Geoffrey Schleifer 1982, p. 324). Population and labor force growth rates are much lower among the European nationalities of the Soviet Union and the overall rates are kept at present levels only because of the much higher growth rate of the Moslem populations. These by now account for about 21 percent of the total population, and generate most of the net additions to both population and labor force. Because economic activity is highly con-

¹⁵ On population and labor force issues see Warren W. Eason 1963; Feshbach 1983; Feshbach and Rapawy 1976; Rapawy 1976; Baldwin 1979. The above discussion ignores the relatively small effects of changes in the age structure on trends and comparisons of participation rates. Much of these effects are excluded in any case by relating the labor force to the population aged 15-64.

concentrated outside the Moslem republics and also owing to language problems and lower education levels among the Moslem populations, these labor increments are less readily available for productive employment.

Capital. The most outstanding characteristic of Soviet growth strategy is its consistent policy of very high rates of investment, leading to a rapid growth rate of capital stock. The Soviet capital stock has been growing since 1928 at an annual rate of 6.9 percent and of 7.5 percent if World War II years, when capital was destroyed, are excluded (Table 1, line 5). Until 1975 the growth rate of capital remained between 8–9.5 percent, doubling its size every 8–9 years. These high rates, with the implied high rates of growth of investment and its high share in GNP, are all almost without precedent for such long periods (see Table 2) and are the hallmark of Soviet growth strategy. Only since 1976, with a change of policy, were the growth rates of capital allowed to decline to between 6 and 7 percent annually (still very high by international standards). Even so, in view of the much sharper decline in the growth rates of labor, capital now remains almost the sole carrier of the modest growth of the Soviet economy. A more detailed discussion of the underlying policies is presented below.

Before moving on, however, a word on the estimates of the capital series presented in Table 1. These series are taken directly from the *Soviet Statistical Yearbook*, following the accepted practice in the field (Bergson 1983a, p. 69; 1986). For reasons that are still not fully understood, these official statistics do not seem to be subject to the substantial upward bias that all agree affects most similar aggregated "constant price" series.¹⁶

¹⁶ Direct use may be justified, quite surprisingly in this case, by the rather peculiar Soviet method of compiling the relevant data. The Soviet capital

While this is the accepted view, and the basis of most Western series on Soviet capital, there is a dissenting voice, that of the "British contingent." Based on several recent Soviet sources, they claim that, like most Soviet series on machinery and equipment, the investment series also contains a significant element of inflation, and that therefore the implied growth rates are exaggerated and the implied productivities are downward biased. With the recent low rates of increase in investment, Wiles and Nove even wonder whether the entire growth of investment is not made up of price increases (Nove 1981; Wiles 1982; Philip Hanson 1984; see also Selyunin and Khanin 1987). Some of the responses to these arguments have already been included in the discussion above, and detailed discussions appear in Cohn (1981) and Bergson (1986). One source of difficulty in both the Soviet sources and the debate seems to be a confusion between hidden

series is based on two elements: two capital censuses (one in 1959–60 and another in the early 1970s) and interim and following investment series. The methodology that apparently makes these series less afflicted with hidden inflation is the use of "estimated prices" (instead of the usual set of "comparable prices"), prices that are established and monitored by special agencies to avoid price creeping (Cohn 1981; Bergson 1986). One check on the reliability of the Soviet official capital series was provided by independent estimates of Soviet capital series through the heroic efforts of Moorsteen and Powell (1966). These estimates have been discontinued, but for the period covered (up to 1973) they come fairly close to the Soviet series. A second check is provided by ongoing independent CIA estimates of the Soviet investment series, which is also not dissimilar to the corresponding Soviet counterpart (Bergson 1986, especially Table 1; Powell 1979). In the case of investment, however, it is assumed that some element of hidden inflation (between 1 and 3 percent annually) is presented in the series especially during the second half of the 1970s (Ray Converse 1982; Cohn 1981; Bergson 1986, pp. 24–25). The impact of the bias on the capital series is much smaller because a 1 percent bias in the investment series is translated into a much smaller fraction in the capital series, and because the accumulated bias in the latter is periodically corrected by a new capital census.

inflation and increased capital costs per unit of output and between capacity resulting from technological input substitution and inefficiencies (Bergson 1986, pp. 18-25). In conclusion it must be stated that the issue is not yet settled and we must reserve judgment when productivity figures are discussed.

Land. Line 6 of Table 1 shows data on the expansion of land under cultivation. The figure for 1928-40 (1.6) reflects the Soviet territorial acquisitions of 1939, and the figure for 1950-60 (3.3) reflects Khrushchev's Virgin Land Program—the drive to raise food production by expanding the sown area, mainly in Kazakhstan and Western Siberia. This and similar drives are part of the contribution of land in the general effort of input expansion.

Combined Inputs. The common practice of combining inputs by their factor shares in national income is not readily feasible in the Soviet case. For ideological reasons the Soviet Union does not recognize as an economic category capital charges other than depreciation, and such charges are therefore not included in Soviet national accounting. Instead, until 1966-67 "profits" were calculated as a percentage of production costs and then added to production costs to yield wholesale prices. Since then, profit norms are determined as a percentage of total assets, and a capital charge of 6 percent is levied from profits; however, for various reasons, profit norms vary substantially among branches and individual products. Similarly, rents on land and natural resources were introduced only after 1966-67, but also only half-heartedly (Bornstein 1976, 1978). In order to arrive at appropriate Western type factor shares and, for that matter, national income estimates, all Soviet prices must be transformed from official "established" prices into "adjusted factor cost" prices, stripped from taxes and subsidies

and with an appropriate return on capital and land. The most common alternative practice in the West has been to assign reasonable rates of return and rental values to capital and land, as a basis for calculating their income shares (Green-slade 1976; Bergson 1961, 1963, 1973, 1978a, 1983b, 1985; Moorsteen and Powell 1966; and others). The rates used as returns to (net fixed) capital over the years were 6, 12, and 20 percent, the middle rate being the most commonly used, apparently also by Soviet planners when making project evaluations (Bergson 1983b, pp. 39-41).¹⁷ Depending on the method and on the estimates of labor inputs, each investigator arrives at a slightly different set of weights, and therefore obtains a slightly different series for combined inputs.¹⁸

The weights used by Bergson to combine inputs are 0.62 for labor, 0.33 for capital, and 0.05 for land. The figures used by the CIA were for up to 1980, respectively, 0.558, 0.412, and 0.03 (CIA, HB, 1984, p. 68; Greenslade, 1976, p. 279), and slightly different for 1980-85. Because capital is growing faster than labor and land, a lower weight for capital generates a lower rate of growth of inputs and a higher residual, that is, productivity growth. Thus the CIA estimates for productivity growth are about 0.5 percentage points lower than Bergson's, as shown in Table 1 (CIA, HB, 1984).¹⁹ The estimates of factor contributions and factor productivity in Table 1 are consistent with the assumption

¹⁷ A new method of calculating factor costs and input shares was recently developed based on the Soviet input-output table, which involves computing factor cost prices under the assumption that all sectors have the same rate of return on their capital inputs (Pitner 1982, p. 40).

¹⁸ See also notes and sources to Table 1.

¹⁹ To illustrate, using a 6 percent return to capital instead of 12 percent would reduce the growth rate of combined inputs over the period 1980-70 to 3.12 (compared with 3.69) and raise that of productivity to 2.14 (instead of 1.51). See Bergson (1983, p. 38).

that the Soviet production of GNP lies along a Cobb-Douglas production function with constant returns to scale. We shall discuss other interpretations of the production data in Section VII.

The pattern of Soviet growth as shown in Table 1 is called *extensive growth* in the Soviet and Western literature. As we have seen, its main characteristic is in generating growth mostly through the expansion of inputs and only marginally through rises in productivity. Indeed, emphasis on input growth has been a strategic decision of Soviet policy makers from the beginning (Alexander Erlich 1967; Bergson 1973; Cohn 1970; James R. Millar 1981; and many others). The other aspect of the extensive model, the relatively small contribution of productivity growth, is clearly an undesirable and unintended outcome. The interesting questions are, to what extent is this failure a systemic problem that can be corrected by radical changes? If so, what are its sources and what are the changes needed? Is it affected by various policy aspects including different elements of the growth strategy? To what extent may it result from the extensive aspect of the growth strategy itself, where the emphasis on maximizing input expansion may have created conditions that are disruptive to productivity growth? More on this later, but not before we review the other structural changes in Soviet economic growth.

IV. Structural Changes

According to Kuznets (1966, 1971b), the discussion of structural change covers three aspects: changes in GNP distributed by end uses, changes in the industrial composition of GNP and of inputs, and changes in the extent and structure of external economic relations.

A. End Use

A key feature of the extensive growth model is that capital grows faster than

GNP. This is due to the high growth rate of capital, on the one hand, and to low productivity advance, on the other. Consequently, in order to sustain the growth rate of capital, the share of investment in GNP, in constant prices, must grow continuously. The share in current prices can move in both directions, depending on the change in the relative price of investment goods vis-à-vis other GNP uses.²⁰

As shown in Table 3, the share of gross fixed investment in GNP, when defined in constant 1970 factor cost prices,²¹ rises continuously and rather steeply. From 1950 to 1980 it rose from 14 to 33 percent of GNP (line 12). This manifests itself in a faster rise of investment compared to GNP growth (see Table 1); however, when measured in current prices, the share is fairly constant from about 1960 on—which means that at least since then the relative prices of investment goods have been *declining*. Since 1960, the investment shares are stable at 27–29 percent (Table 3, line 1). These are comparatively high figures; very few countries have sustained such burdens for so long. Kuznets estimates that “normal” investment shares reach about 20 percent

²⁰ The relation between I (investment), K (the capital stock), and Y (national product) in real terms is given by:

$$I/K = (I/Y)(Y/K).$$

Let us describe growth by $\dot{Y} = \alpha\dot{K} + \beta\dot{L} + \dot{A}$, where $(\dot{})$ denotes growth rates, L is labor, and A is the level of technology.

Under intensive growth, $\dot{K} < \dot{Y}$, so Y/K rises over time. In order for $I/K (= K/K)$ to stay constant, I/Y must decline, i.e. $\dot{I} < \dot{Y}$.

Under extensive growth, $\dot{K} > \dot{Y}$, so Y/K declines and a constant I/K implies a rising I/Y .

The share of investment in GNP in current prices may be written as $I_c/Y_c = IP_c/YP_c$, where c stands for “in current prices” and P for “price level.”

A change in the relative price of I , due, for example, to faster technological change, may slow down the rise of I/Y in real terms.

²¹ Factor costs are calculated by adding subsidies to and subtracting (turnover) taxes from established prices. No adjustments are made to make factor prices scarcity prices as in “adjusted factor costs.”

GNP at an advanced stage of development (1966, pp. 496-97). Indeed, most of the figures for various groups of countries are about 20 percent (Table 3).²² Compared with this estimate there is an excess Soviet investment of about 8 percentage points of GNP. The only other countries belonging to the control group which invest that much or more, and for such extended periods, are Japan and Norway (OECD 1982, p. 60). Another characteristic of the growth orientation of Soviet investment is that less than 20 percent goes to residential construction compared with more than one-quarter for E-OECD (OECD 1982; Cohn 1976b, p. 452). To the basic figure of 28 percent for fixed investment one must add 2-3 percent of investment in inventories and 3 percent spent on Research and Development (R and D), to get a grand total of about one-third of GNP in current prices for investment.

Before we discuss the implications of the above for consumption, a word on the share of GNP allocated to general government uses, especially *defense*.²³ The most recent estimates of the share of defense spending in Soviet GNP (the defense burden) are between 15-17 per-

cent for the early 1980s, estimated in 1982 prices. After a sharp decline in the share of defense following Stalin's death, it resumed a monotonic climb from possibly less than 10 percent in the late 1950s to about 13 percent in 1970.²⁴ This rise in the defense burden represents a combination of varying proportions of increases in real spending at rates higher than GNP growth, and an apparent monotonic increase in the relative price of defense. The first factor was more important up to the mid-1970s, when a major policy decision trimmed the real annual growth of defense spending from about 4 percent to 2 percent with almost a freeze on growth of the procurement of weapons (see Table 1, line 14). Increases in the cost of defense relative to economy-wide price rises have been more important and more pronounced since the early 1970s.²⁵ These cost increases stem from the rising level of sophistication of the new weapon systems and from the difficulties encountered by the Soviet system in coping with them (Becker 1986).

By all standards, the defense burden on the Soviet economy is especially high. As shown in Table 3 (line 11), it is at least three times higher (and often more than that) than for the group of industrial countries. It is also about three times higher than the defense burden of the United States. This exceptionally high defense share reflects both Soviet aspirations to achieve world-power status and sustain its position in the arms race, and the need to support this effort by a na-

²² The figure estimated from the C & S regressions, 3 percent, includes investment in inventories, as do the World Bank figures.

²³ See note "a" to Table 3. Soviet defense spending usually defined in Western statistics in two ways. The lower range of spending estimates is based on the definition of defense used in the U.S. and includes the U.S. equivalents of (a) national security programs funded by the Department of Defense, (b) defense-related nuclear programs, (c) selective service activities, and (d) defense-related activities of the Coast Guard. This definition is broadened in the upper range to include other activities that the Soviets may view as part of their defense effort: (a) internal security, (b) construction and railroad troops, (c) civil defense (in part), (d) military assistance, and (e) military stockpiling. Both definitions exclude military pensions and veterans' benefits.

The estimated defense spending according to the second definition is usually larger by 2 percent of GNP than the estimate based on the first definition. The figures in Table 3 rely on the first definition which is better for comparison purposes). See U.S. Congress 1981, pp. 129-30; CIA 1981, p. 10.

²⁴ The figures for 1970 and 1982 are in established Soviet prices as estimated in the West. For years before 1970 and between 1970 and 1982 the shares are usually calculated in 1970 prices. The inferences about the behavior of current price shares are made on the basis of estimates of relative price rises by Becker (1986, pp. 16-18); CIA (1986, pp. 35-37), and others. See further discussion on the data below.

²⁵ It is estimated that the price level of defense has been rising since 1970 at about 3 percent per year as compared with a general price rise of about 2 percent (CIA 1986, pp. 33, 35).

TABLE 3
END-USE GNP SHARES
(PERCENTAGE)

	Soviet Union					Kravis 1975	E-OECD 1980	USA 1980	IMEs 1982	C & S 1980
	1928	1950	1960	1970	1980					
Current Established Prices										
1. Gross fixed investment	19	17	27	29	28	21,24	21	18	20	22
2. Inventory change	4 ^a	6 ^a	3	4	3	— ^b	—	—	—	—
3. R and D ^c	—	—	2	3	3	—	—	—	—	—
4. Consumption	73	64	59	55	55	65,71				
5. Household	68	55	53	49	49	—	60	65	62	64
6. Food ^d					18					18
7. Communal services	5	9	6	6	6	—	18	18	18	14
8. Government	5	13	10	10	11					
9. Civilian administration	3	4	2	3	3					
10. Other ^e	2	9	8	7	8	—				
11. Defense ^f	2	9	12	13	16	—	1-5	5	4	—
		(17)								
Constant Factor Cost (1970 Prices)										
12. Gross fixed investment		14.2	24.2	28.2	33.0					
13. Consumption		59.9	57.7	54.2	53.6					

Sources: The Soviet Union: 1928, 1950—Bergson (1961, Table 3, p. 46); 1960–80—CIA (1983, Tables 5 and 18). Constant factor cost shares are from CIA (1983, Table 9). The figure for food consumption is from Schroeder and Edwards (1981, p. 20). Defense expenditures for 1950–70 are from Becker (1986, Table 2, p. 14); the figure for 1980 is from CIA (1986, p. 35). Other countries: "Kravis"—Kravis et al. (1982, Table 1–6, p. 18); "E-OECD"—OECD (1982, various tables); C & S—Chenery and Syrquin (1975, Table 3, pp. 20–21). Defense shares are from CIA HB, (1984, Table 22, p. 47).

Note: E-OECD and USA data are based on GDP rather than GNP. It is assumed that the distortions created by taxes and the exclusion of proper factor payments are much more significant in the Soviet Union than those created

tional product that is about half the size of its chief adversary. While the defense effort cannot be considered an integral part of a "socialist growth strategy" in an abstract sense, it clearly has a very strong impact on the realities of the Soviet growth pattern.²⁶

²⁶ The above discussion over the relative size of the Soviet defense effort represents the current estimates and views of what may be called the mainstream in the field including the CIA which, for obvious reasons, invests most of its resources in the investigation of this question. Comprehensive surveys on the methods of estimation and the nature of existing disagreements can be found in Becker 1986; Richard F. Kaufman 1985; Donald F. Burton 1983; and Hanson 1978a. The major method of estimation is the building-blocks

method, starts from estimates of physical series of the production of weapons, employment of military personnel, and so on. These series are then valued and aggregated by estimates of their U.S. dollar costs in the United States. Finally, estimated ruble/dollar price ratios are employed to transform the dollar into ruble series. The problems and difficulties encountered at every step may explain why twice in one decade the CIA came out with major revisions of its own estimates. Once, in 1973, the revision consisted mostly of near doubling the ruble cost of more or less unchanged dollar estimates of Soviet defense spending. The second major revision, in 1983, involved scaling down the estimates of real rates of growth, mostly of weapons procurement. The major dissenting views are, on one side, those of Lee (1977a, 1977b, 1979b) and Rosefield (1982), who consistently come up with higher estimates of Soviet defense spending, its growth rate, and its GNP shares (see also Birman 1984). They claim that what the CIA considers cost increases are real increases in

by taxes in other countries. In 1970, the consumption share in the Soviet Union at factor cost was lower by one percentage point than that estimated at established prices (54.2 and 55.1 respectively; CIA 1983, p. 8; Pitzer 1982, p. 21). OECD, IMEs, and USA data are as in Table 2, except that the IMEs figure is the median value for the group. Kravis' data are simple averages for two groups of countries; the left-hand figure is the average for Italy and Spain, and the right-hand figure is the average for nine industrialized countries (eight European and Japan), excluding the U.S.; C & S stands for Chenery and Syrquin 1975. The figures in this column are the relevant levels as estimated from their equations for a level of GNP per capita of about \$1,500 (of 1965), the approximate level for the Soviet Union in about 1980 (see text p. 1776).

Consumption includes the provision of communal services, mostly education and health, by governments. Household consumption excludes services supplied by governments.

As apparent from the table and the related discussion in the text, the sum of the shares of investment (lines 1, 2, and 3), consumption (line 4), civilian administration (line 9), and defense (line 11) and up to more than 100 percent in all years since 1970. This results from the fact that expenditures covered by "other" government expenses include, in the reconstruction of Soviet GNP in the West, only part of the Soviet defense expenditures. Western analysts believe that the amounts spent on defense but unaccounted for in "other" government expenses (line 10) are allocated and reported according to the Soviet practice in other categories, fixed investment, changes in inventory, R and D (where over half the expenditure is probably spent on military R and D), and consumption (military subsistence and pay). See Becker (1968, Ch. 7); JEC (1982b, pp. 121-23). It is also possible that in the reconstruction some defense expenditures are left out of total GNP. Western analysts are not sure how to allocate the rest of defense among other uses, and thus are also unable to reallocate them to defense. Therefore, there is no breakdown of Soviet GNP by end use with defense as one of its categories (CIA, 1983). The above implies that the shares of consumption (and household consumption) and of investment (especially R and D and inventories) are overstated by a few points for purposes of international comparisons. But this does not significantly affect any of the observations in the text.

^a Including changes in livestock.

^b — = not available.

^c R and D figures for the Soviet Union in 1928 and 1950 are included in the government budget. For other countries the figure is included in other categories.

^d Food excludes beverages and tobacco.

^e In 1928 and 1950, includes defense expenditures as recorded in the budget, that is, only part of such outlays (see text). In 1960-80, in addition to part of all defense expenditure the category may contain other (small) unspecified government expenditures.

^f For 1928 and 1950 the data are official Soviet figures as recorded in the budget. The figure in parentheses for 1950 is from Becker (1966) and includes, as do the figures for 1970 and 1980, all defense expenditures, some of which are recorded in the various investment categories (including inventories and R and D) and consumption. The defense share is recorded at factor cost, not in established prices as are the rest of the figures in the table. The bias created is small.

Government administration and general government collective services, such as internal security, take up only 2-3 percent of GNP in current prices and do

not require special attention. This figure may appear far too low for a system that is the symbol of bureaucracy and internal security, but I believe it is of the right order of magnitude.²⁷

The final claimant on GNP is *consump-*

spending reflecting quality improvements. It follows that the differences in estimates of the defense shares in current prices are now relatively narrow. Dissents on the other side of the estimates are mainly by Franklyn D. Holzman (1980, 1982), who questions the finding about rising relative costs of defense, in contrast with Gerschenkron's theory of declining costs of advanced products (1947), and also with claims of the relatively higher efficiency of defense production in the Soviet Union. All estimates, however, agree that the share of defense in the Soviet Union has been exceptionally high in comparison, and this is the main relevant point for the purpose of this review.

²⁷ I tried to check this point (Ofer 1973, Chs. 3-4), and received a dissenting rejoinder (Gertrude E. Schroeder 1976). I stand by my conclusion that labor and money resources devoted to civilian public administration are, at least, not strikingly large even by the standards of market economies. Some support for this claim is presented in Table 3 (lines 7, 8) where "normal" shares for government services, with communal services, are only slightly excessive in the Soviet Union, considering that they include the bulk of the large defense outlays. See also Schroeder and

tion, whose share has declined over the years, in current prices, from 73 percent in 1928 to 64 percent in 1950 down to 55 percent in 1980. Consumption here includes household consumption financed by disposable income, and "communal services," chiefly education and health, provided almost entirely free of charge by the government.²⁸

The share of consumption in GNP is lower in the Soviet Union than in most countries, typically by at least ten GNP points, which are taken up as seen above by investment and defense. The comparisons are presented in Table 3; some are for private consumption and others for household consumption only—that is, without communal services. The typical Western level of household consumption is 60–65 percent compared to the Soviet 50 percent, while the typical level for total private consumption is 65–71 percent compared to the Soviet 55 percent.²⁹

Figures on the increase in consumption per capita and per worker are presented in Table 1, and international comparisons are made in Table 2. Growth rates of consumption and of its components are presented at factor cost and at established prices. Factor costs are consistent with the GNP series, and established prices, paid by consumers, better represent changes in welfare. During 1928–40 consumption per capita rose by only 1.4 percent, but the entire rise is credited to communal services. Household consumption per capita actually declined (Table 1, lines 18–20). During those years the Soviet regime was engaged in rapid expansion both of medical

services and of the educational system, an intensive effort of investment in human capital alongside that in material capital. The combined volume of these two services quadrupled in 1928–40 (line 18). The fact that household consumption per capita declined somewhat over that period is an extreme manifestation of Stalin's industrialization policies. After 1950, consumption per capita was allowed to grow more rapidly for almost three decades, creating a real revolution in the Soviet standard of living, a revolution that goes beyond the quantitative rise. The estimates do not capture the improved consumption environment and the variety and quality of goods and services that together brought a radical change in the quality of life in the Soviet Union; however, it should be borne in mind that this started from very low initial levels. Growth of consumption per capita has tapered off recently, following the trends in GNP, reaching the very low annual rate of about 1 percent and less. The apparent contradiction between increasing consumption levels on the one hand, and declining consumption shares in GNP on the other, reflects a decline in the relative prices of household consumption (primarily the result of reducing sales taxes and raising subsidies) and the fact that the growth rate of consumption over most of the period, even after World War II, was kept below that of GNP (Table 1).

All along, except for one interval, consumption per worker rose more slowly, and household consumption per worker even declined substantially in 1928–40 (Table 1, lines 17 and 4). While GNP per worker measures productivity, consumption per worker is a better measure of overall consumer welfare than consumption per capita because it also takes account of the amount of work effort or leisure forgone.

Soviet growth rates of household con-

²⁸ The rate of decline shown here may be slightly exaggerated because estimates for earlier years (Janet G. Chapman 1963; Bergson 1961) may be slightly upward biased according to more recent methodology.

²⁹ Similar comparisons and results are presented by Schroeder and Imogene Edwards 1961, p. 26; Bergson 1963c, pp. 205–6; and Pitzer 1962, p. 22.

sumption per capita for 1950-80 are somewhat higher than the E-OECD average for the same period and than those of IMEs for 1960-80. Soviet rates are equal to the other groups of countries (Table 2, line 12). E-OECD rates per worker are, however, equal to or higher than Soviet rates (lines 13 and 14), whether the former are presented per labor force member or per worker. In both comparisons the U.S. rates are lower. At least 6 OECD members, and possibly 14, have higher per capita rates, and more countries have higher rates per employed person (OECD 1982).³⁰ The welfare implications of unemployment aside, the Soviet citizen seems to be catching up with his Western counterpart very slowly, if at all.

The smaller and declining share of consumption in Soviet GNP brought about a situation in which the *relative level of consumption* of the average Soviet citizen, when compared across countries, is lower than that of GNP per capita. According to Schroeder and Edwards, Soviet per capita consumption level in 1976 is just above one-third of that in the U.S. (1981, p. 19), compared with 45 percent of GNP per capita, and 36 percent of GNP per employed person (Schroeder and Edwards 1981, p. 26). The actual figure for the Soviet citizen is bound to be even lower, because the comparison necessarily fails to take into account the limited variety and choice of goods, the effort that must be invested in shopping, the lines, the perennial shortages, the lower level of retail trade services, and possibly the unaccounted for lower quality of many goods and services (Bergson 1983c; Schroeder and Edwards 1981; Schroeder 1982). Birman (1983), in a criticism of Schroeder and Edwards' paper, estimates Soviet per capita con-

sumption at only 22 percent of the U.S. level. This is probably much too low, but some of Birman's points are valid and are mentioned above. One additional point is that when comparing consumption of retail goods in the Soviet Union and the U.S., the huge differences in the quality of retail services is disregarded (Birman 1983). This difference means extra time pressure on the Soviet consumer, who must spend many nonwork hours attempting to obtain retail services.

B. Sector of Origin and Urbanization

More than 50 years after the initial industrialization drive, the Soviet Union still lags behind the West in some of the main characteristics of structural change. Comparative data are presented in Table 4. The level of urbanization was 63 percent in 1980 compared with a C & S "norm" of 70 percent for its level of development, and an average of 78 percent for E-OECD countries. The gap is actually even wider, because within the Soviet Union very few places are defined as rural unless they are either collective or state farms, whereas in most other countries many small nonagricultural locations are classified as rural. Correspondingly, more than a quarter of the persons employed in the Soviet Union (in 1980) still worked in agriculture, compared with the "normal" figure of about 15 percent, and 20 percent of the Soviet GNP is still derived from agriculture, compared with "norms" of 4-12 percent.³¹ On the urban side of the industrial structure there is, first, a deficiency in labor and GNP shares of the service sectors, in each case by 10-15 points, and only normal shares (not higher) for the M sector including manufacturing, min-

³⁰ Similar evidence is presented by Bergson 1983c, Schroeder and Edwards 1981, and Schroeder 1982.

³¹ GNP shares should be compared across countries in current prices, so the following refers to lines 5-8 in Table 4. Labor force shares are compared in lines 1-4.

TABLE 4
INDUSTRIAL STRUCTURE BY SECTOR OF ORIGIN AND URBANIZATION

A. Shares in Labor Force and GNP (percentage)									
	Soviet Union					C & S		E-OECD	
	1926	1940	1950	1970	1980	1950	1980	1950	1980
<u>Employment Shares</u>									
1. Agriculture	71	54	54	32	26	38	16	29	15
2. Manufacturing	14	23	23	34	35	25	34	37	36
3. Services	15	23	22	34	37	37	50	34	50
4. A/(A + M)	84	70	70	48	43	60	32	44	29
<u>GNP (Current Prices)*</u>									
5. Agriculture	—	29	31	21	20	18	9	15	4
6. Manufacturing	—	34	31	39	41	31	36	34	39
7. Services	—	37	38	40	40	50	54	51	57
8. A/(A + M)	—	46	50	35	33	37	20	31	9
<u>Urbanization (percentage of population)</u>	18	33	39	56	63	55	70	—	78

B. Changes Over Time (percentage points)							
	Soviet Union				C & S		E-OECD
	1928-80	1950-80	1950-70	Range	1928-80	1950-80	1960-80
<u>Employment Shares</u>							
9. Agriculture	-45	-28	-22	-55	-33	-22	-14
10. Manufacturing	21	12	11	24	13	11	-1
11. Services	22	15	12	28	20	13	16
12. A/(A + M)	-41	-27	-22	-56	-38	-28	-15
<u>GNP (Current Prices)*</u>							
13. Agriculture	—	-11	-10	-43	-17	-9	-11
14. Manufacturing	—	10	8	23	11	5	5
15. Services	—	2	2	18	5	4	6
16. A/(A + M)	—	-17	-15	-60	-31	-17	-22
<u>Urbanization</u>	45	24	17	57	26	20	—

Sources: Soviet Union: Labor shares, 1926, 1940—Ofer (1973, Table E-1, p. 187); 1950-83—Rapawy (1985, Tables 1, 4, pp. 1, 8). Product shares, 1937, 1950—Kaplan (1969, Table A-6.1, p. 123); 1960-80—in current prices; 1950-80—CIA (1983, Table 10, p. 10). Urbanization levels, Narkhoz—various years. Other countries: C & S, Chenery and Syrquin (1975, Table 3, pp. 20-21); E-OECD and U.S., OECD (1982, various tables).

Note: Here, too, as in earlier tables, data for the period up to 1950 are not fully consistent with later data. The definition of the sectors is as in Table 1. "1950" and "1980" under C & S stand for GNP per capita values of approximately \$600 and \$1,500 of 1965. The "range" in Part B of the table stands for changes from a level of GNP per capita of about \$70-\$1,500. "1928-80" covers the income range of \$300-\$1500. In each case the dates attached correspond to the approximate time when Soviet GNP per capita was at the corresponding level. Data for E-OECD are based on GDP and represent the structure of the sum of the entire group of countries.

* Data for 1940 is for 1937. Data for GNP in current prices for 1950 is in 1955 prices. The bias created must be very small.

ing, and construction. Here, too, the figures in the table are not exactly comparable, and make the Soviet Union seem closer to "normal" than it really is.³² The word *only* is used above in referring to the M shares because one would expect to find relatively high levels of activity in that sector in the Soviet Union. The lower than normal service shares stem from, among other things, a persistent Marxist-doctrinal bias against service activities. Most services to people, including government administration, are considered "nonproductive."

When the emphasis is shifted from the Soviet economy today to comparisons of changes over time, one finds that by and large the Soviet Union has followed a normal pattern of change, and indeed quite rapidly (Table 4b). Between 1928 and 1980, and even since 1950, most changes are equal to or larger than those called for by estimates derived from the C & S equations. This is even true with respect to labor and product shares. On this basis Kuznets and others judged the changes to be normal in direction and *intensive* in pace (Kuznets 1963, pp. 345-47; Millar 1981).

How can one reconcile this apparent contradiction between a normal pattern of structural shifts and a biased structure still in effect in 1980? There are a number of possible explanations. First, it has been shown that in 1928 the industrial structure of the Soviet economy was already tilted in the same direction as it is today, but much more so (Ofer 1973, 1976, 1977, 1980c). In fact the industrial distribution of the labor force in 1928 resembled the one shown by C & S for countries with a per capita income of \$70, not \$300, as was estimated for the Soviet Union. This finding may explain the dif-

ferent Soviet structure by long-range historical factors, or simply because the USSR needs more time to catch up. Both explanations are partly valid, but they cannot explain the entire gap. Based on comparative analysis with a more limited group of countries, I have shown that even when the historical legacy is taken into account, until the mid-1960s structural changes in the Soviet Union were not as rapid as has been typical elsewhere: Urbanization levels, the decline in the A labor share, and the rise in the S labor share were all below the norm. It was claimed that the biased structure and the slow changes reflected two major strategic development decisions: first, to go with the smallest possible increase in consumption levels, including minimum development of agriculture and services, and second, to concentrate most investment resources in industrial growth while limiting them in all other sectors including agriculture, urban infrastructure, services, and even transportation. Such a strategy implies slower urban growth, less than normal rural-to-urban migration, higher than normal labor-to-capital ratios in agriculture and services, and higher ratios in manufacturing. Because technology and productivity are at least partly embodied in capital, it also follows that both the A and the S sectors lag in productivity relatively to the M sector.³³

Since the mid-1960s structural changes accelerated and moved closer to normal

³² In the C & S data, mining and quarrying are included in the A sector, and the Soviet labor series are for full-time annual equivalents, which usually reduces the estimate for agriculture.

³³ This can be seen from the changes in the implied sectoral relative prices computed from GNP shares in current and constant prices. Between 1950 and 1980 relative A prices (to GNP) increased 38 percent, relative M prices declined 24 percent, and relative S prices rose 52 percent—based on data on the distribution of GNP by sector of origin in current (established), and constant, 1970 prices in CIA (1983, Table 10, p. 10). These relative price changes may also reflect government policy in raising A prices and resisting raising M prices even when such changes were warranted.

patterns. This is especially true of urbanization and of the labor share in agriculture, but also, to some extent, of services. The main causes of this change were the shift to more favorable policies toward agriculture and the emergence of labor shortages, especially in manufacturing and related branches. The more tolerant attitude toward the growth of consumption also contributed to this result.

C. *External Economic Relations*

Foreign trade and aid, and the movement of people, capital, and technology have played important roles in the theory and viability of economic development everywhere. External economic relations strongly affect both the rate of growth and the pattern of the accompanying structural changes. Have Soviet external relations, like other aspects of Soviet industrialization, been atypical? And if so, what are the growth and structural implications?

A number of difficulties arise in comparing the Soviet Union's external economic relations with typical patterns of modern economic growth. First, there is no single unique pattern for all countries, but a variety of patterns depending on the strategy chosen (e.g., export lead or import substitution), the relevant time, and world conditions (Kuznets 1966, Chs. 6, 10; Chenery and Syrquin 1975, Chs. 4 and 6). Second, on the Soviet side there is its large size and abundance of most raw materials that make it almost *sui generis*. In addition to the above objective problems, there is also the difficulty in interpreting official Soviet trade statistics: Soviet trade is conducted by the Ministry of Foreign Trade, which has been until very recently virtually the sole Soviet trader in foreign markets. Internally, the Ministry buys and sells at domestic prices, but trade is conducted in international transferable rubles, reflecting prices related to world

prices, but different from domestic prices (Trembl 1980; Trembl and Kostinsky 1982). This obscures the volume of trade relative to the size of the economy and its economic impact. Lack of official data on trade in services and on the capital account adds to such difficulties.

As a rule, large countries engage less in international trade, which also has a smaller effect on their internal economic structure. In spite of this, Soviet external economic relations have attracted much attention in Western literature. There are two reasons for this. First, there is the natural interest of other countries as potential partners or competitors. Second, there is interest in the theoretical and empirical aspects of the conduct of trade by a centrally planned system, its internal and external effects, and on how trade is conducted when internal prices are so extremely remote from world prices. In view of the limited effects of trade on large economies, this survey will restrict itself to a brief discussion of the main issues. (Some recent surveys of the literature are Holzman 1974, 1976; Edward A. Hewett 1982; Marshall I. Goldman 1975; Michael R. Dohan 1979.)

Autarky. The first notable feature is the small amount of external economic aid the Soviet Union has received compared with many other countries, even with pre-Revolutionary Russia. There was very little private inflow of capital during the early 1930s, and with the exception of lend-lease during World War II and forced transfers of resources from East Germany and Eastern Europe thereafter, there was very little government-to-government aid. Growth was self-financed all the way, mainly through compulsory saving.

Second, no matter how it is estimated, the volume of Soviet trade up to the mid-1950s was below reasonable international standards, and also below trade levels achieved during the Tsarist era. Holzman (1963, p. 290) estimated the share of ex-

ports in national income at 10.4 percent in 1913, 3.1 percent in 1929, 0.5 percent in 1937, and 2 percent in 1955. These figures, since 1929, are small enough to justify the claim of autarky even for a country the size of the Soviet Union. But since 1946 Soviet trade figures have been growing very rapidly in real terms—13 percent annually in the 1950s, 8 percent in the 1960s, and 9 percent in the 1970s—thus constituting a rapidly increasing proportion of GNP. Soviet trade shares were estimated by Trembl (1980), following necessary price adjustments.

An attempt to compare Soviet trade shares with "normal" patterns is made with the help of the C & S equations. After an adjustment of the C & S estimates for GNP size, and taking into account the secular rise in world trade since 1965 (the base year for the equations), and on the basis of Trembl's estimates with some adjustments, I estimate that in 1965 the Soviet trade ratios (imports *plus* exports *divided by* GNP) were about one-third below the "norm," and that by 1980 they had probably caught up and closed the gap. It is possible that by 1980 Soviet commodity trade reached 5-20 percent of GNP (based on Trembl 1980), which may be similar to the U.S. ratio (The World Bank, *WDR*, 1984, p. 27).³⁴

The expansion of trade after World

War II was first concentrated in trade with the newly established socialist regimes in Eastern Europe, but since the mid-1950s trade with Third World countries and then also with the developed West began growing rapidly. Autarky, in the sense of trade proportions, was thus part of Soviet policy only up to World War II or shortly thereafter. It was partly the Soviet Union's large size, partly the concentration of trade within Eastern Europe, and partly—perhaps most important—the way it conducted trade (the isolation of the economy from world market prices and from external connections, and inconvertibility of the ruble) that helped sustain the autarky claim or image (Holzman 1974). The quite rapid development of significant trade shares by the much smaller Eastern European socialist countries further contributed to weaken the assumed close association between autarky and the socialist system (Holzman 1974, 1976).

The structure of Soviet trade is shaped by the Soviet Union's growth strategy, its natural endowment, and its choice of partners. Here, too, size vitiates simple comparisons. The evolution of the structure of Soviet trade differs in at least three ways from the patterns in other countries trading along the same development road. First, the balance of trade in agricultural products turned negative rather early, in 1958. By the 1970s, it was 18 percent in favor of imports with almost no exports.³⁵ The change is much more extreme than for OECD countries which today still have a balanced trade in agricultural products. The contrast is especially marked in view of the traditional position of Russia as a large exporter of such goods.

Second, the Soviet Union developed a large export capacity of nonagricultural raw materials and other natural resources, including oil and gas. From a

³⁴ Trembl's figure for commodity trade as a percentage of Soviet national income, both in domestic established prices, is 14.9 for 1970 and 21.1 for 1976. Since 1976 it has grown further as trade has been expanding faster than national income. An adjustment of the denominator from "national income," Soviet definition, to Western-type GNP reduces the Soviet trade proportion 10-20 percent (Bergson 1980, p. 207). In his comment on Trembl's paper, Bergson (1980) raises some other issues, most of them about the proper prices that should be used, that may reduce the Soviet trade proportion even further. Hewitt (1983, pp. 274-76) also questions Trembl's figures, first, because he doubts the correctness of the prices used, and second, because he believes that Soviet reports in domestic prices contain a high proportion of tariffs that must be eliminated. See also Trembl and Kostinsky 1982.

³⁵ The percentages here and below are for net flows of exports *minus* imports as percent of total exports.

negative balance until World War II, the Soviet Union moved to a positive balance of about 20 percent since the early 1960s. During the late 1970s and early 1980s more than half of Soviet exports belonged to raw materials. Most industrial countries have a negative balance in raw materials (the U.S. has a 20 percent negative balance).

In terms of all primary products combined, agricultural and nonagricultural, the Soviet Union has developed in a peculiar cycle: Starting with an export surplus based on agriculture, it reached a balance in the 1930s and 1950s, and then, in the 1960s, developed a large surplus based on raw materials. This surplus has been declining lately owing to a rise in Soviet dependence on food imports, and not to a decline in the export of new materials. The Soviet Union still maintains a small export surplus of primary products, whereas most industrial countries run a large import surplus. OECD had a 20 percent net primary import surplus in 1980. According to Chenery and Syrquin (1975), the exports of a country like the Soviet Union should be made up of 30 percent primary goods and 70 percent industrial goods; the actual Soviet proportions are almost the reverse. It should be mentioned that data or trade presented here do not include trade in arms, data not reported by the Soviet Union. With arms the proportions of both imports and exports should be higher and the export deficit somewhat lower.

This leads to the final point: With rapid industrial growth the Soviet Union would have been expected to be a large net exporter of machinery and equipment. It is, however, a large net importer of machinery, with a deficit of over 20 percent in the late 1970s and early 1980s (CIA HB 1985, pp. 97-98, Tables 62, 63), in contrast with most industrial countries, which are net exporters of machinery and equipment. (Most of the data in this para-

graph are from Holzman 1963; Trembl 1980; Hewett 1983; The World Bank, WDR 1984; OECD 1983; and Bornstein 1985.)

Most of the features of Soviet trade structure are explained in the literature by its broad comparative advantage. The Soviet Union and other socialist countries rapidly developed a relative disadvantage in food production and a regional food deficit. This comparative disadvantage resulted from the socialist industrialization strategy including the neglect of agriculture (Ofer 1976, 1980a; Goldman 1983, Chs. 3, 4). The Soviet Union's relatively harsh climatic conditions are also seen as a justification (Russell Ambroziak and David W. Carey 1982). The Soviet comparative advantage in raw materials and, lately, in energy products, is based first of all on the availability of resources, but possibly also on the mode of production such as high capital intensity, only moderately advanced technological sophistication, and large-scale production, all in line with Soviet systemic tendencies. Finally, and most important, the Soviet failure to reach Western technological frontiers in many sectors prevented it from shifting its export structure in the direction of machinery and equipment (M & E). The same applies to consumer goods with the added reason that it is also a low-priority sector. The Soviet Union exports M & E mainly to its East European fellow-members in Comecon and to Third World countries and imports more advanced technology from the West, and from advanced Comecon countries. The opening up of trade with the West has been motivated by Soviet Bloc demand for agricultural products and high-technology M & E. For this reason the structure of Soviet trade with the developed West is even more tilted than total Soviet trade in the directions described above (Bornstein 1985, Ch. 5).

Technology Transfer. The most studied and discussed aspect of Soviet trade in recent years is the impact of technology transfers (TT) from the West to the Soviet Union. TT from advanced countries is considered to be the major late-comer's advantage (the advantage of being backward; see Gerschenkron 1962, Ch. 2; Maddison 1982) derived from external economic relations. It serves the dual purpose of raising the technological level of current production and providing the basis for the development of an indigenous R and D sector capable of eventually taking over. For reasons discussed later, the Soviet indigenous R and D capability has not developed to a level that would put it on a par with advanced countries, and partly for this reason, Soviet dependence on Western technology has been prolonged to the present and is expected to continue into the future.

With the very important exception of the early 1930s, lend-lease during World War II, and the massive importation of German technology after the war, most of the TT to the Soviet Union until the early 1960s was obtained by "reverse engineering" of individual pieces of equipment acquired and by the collection of relevant information. This strategy is inexpensive in terms of foreign currency but very costly in terms of domestic resources. It was only under Khrushchev that TT took the form of importing large quantities of equipment and entire plants, some under turnkey arrangements, and other forms of transfer (such as patents, licensing, and training agreements; Bornstein 1985, Ch. 3).³⁶ Even so, direct Western investments had not been permitted until very recently, and both the prolonged presence of Western

experts in the Soviet Union and the training of Soviet scientists and technicians abroad are strictly restricted.³⁷

Difficulties in incorporating Western technology into the Soviet production system and the failure to use it as a catalyst for domestic R and D activity are among the explanations for the decline in imports of technology after 1977 and contributed to what Hanson dubbed "the end of import-led growth" (1982a). As things stand now, there seems to be no better alternative and one should expect Soviet effort to resume such imports when conditions prove favorable.³⁸

Benefits from Trade. Even though the broad structure of Soviet trade is consistent with the principle of comparative

³⁷ Many attempts have been made to estimate quantitatively the benefits to the Soviet Union from technology imports from the West. One factor that limits potential gains is, again, the large size of the Soviet economy. Any reasonable amount of credit or equipment can provide only a small proportion of total Soviet investment in new equipment. For example, at its peak, in 1975-77, imports of Western M & E came to no more than 6-7 percent of Soviet domestic investment in M & E (Hanson 1982a, p. 136). Attempts to estimate the effect of such imports using production function analysis and other methods arrived at conflicting results, ranging from an estimate that Western equipment may be more than ten times as productive as domestic M & E (Green and Levine 1977; Green 1979) to estimates that showed no differential effect (Martin L. Weitzman 1979; Yasushi Toda 1979). Hanson, following Stanislaw Gomulka (1977; and Gomulka and Jerzy D. Sylwestrowicz 1976) offers an upper-limit estimate of the contribution of imported M & E from the West at 0.5 percent growth of industrial production which, he claims, while modest, "is not to be sneezed at" (Hanson 1981, Ch. 9). Half of 1 percent of industry probably translates into one-quarter of 1 percent of GNP. But considering that total factor productivity, including in Soviet industry, was recently estimated to be negative, such imports may deserve more than a non-sneeze.

³⁸ Recent surveys and analyses of technological transfer are Hanson 1981, and his 1976, 1978b, 1982a, 1982b papers; Gomulka and Nove 1984; Bornstein 1985; see also George D. Holliday 1979; Robert W. Campbell and Paul Marer 1974; Hewitt 1975; Holliday 1982, 1984. See also references in the discussion on technological change in the Soviet Union, below.

³⁶ One of the most innovative of Gorbachev's reforms is in opening up possible joint Western-Soviet ventures in the Soviet Union. Rules and details are now being worked out.

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adverse internal conditions that constrain its growth potential (Gerschenkron 1962, Chs. 1, 2 and postscript). Second, catching up is the expected outcome of the introduction of the more efficient, so it is claimed, socialist system. Finally, there is a combination of the Soviet fear of outside threat and the Soviet and Russian national aspiration to become a leading world power. In each of the three motivations there is a strong element of competition and conflict between the two economic systems and powers. These three forces clearly interact. Specifically, a case has been made that Marxism took root in Russian intellectual and revolutionary circles because it was seen as an inspirational and operational vehicle toward modernization (Gerschenkron 1971). As we shall see, the particular shape of socialist economic and political models, with many elements actually developed and shaped in Russia, conforms to its economic, political, and national aspirations and reflects the haste syndrome. According to Gerschenkron, the tension that builds up in follower countries is translated into more radical institutional arrangements and more drastic means than those utilized in countries that started MEG earlier. While early starters could leave growth initiatives in the hands of private entrepreneurs, late starters needed strong government intervention and direction (Gerschenkron 1971).

Haste, impatience, and radical action translate into a high time preference, a high discount rate for future benefits for the sake of short-term achievements. This observation is, however, the diametrical opposite of another image of the Soviet economy, an image usually associated with a high rate of investment, distant horizons, low time preferences, and low discount rates of future benefits. This contradiction can be resolved by observing that the objective function of the

Soviet leadership, the maximand for growth, differs from what is usually assumed in MEG models. High investment rates represent low time preferences when the goal is to maximize consumption and the welfare of the population in the long run. The Soviets first learned of a model of this kind in Marx "expanded reproduction" and developed their own versions early on in the industrialization debate and the preparations of the first Five Year Plan (FYP) in the 1920s. Evsey Domar (1957) describes a model prepared by Feldman in 1928; see also Erlich (1960). The early FYPs included both extraordinarily high rates of investment *and* high rates of consumption growth, the latter being more of a sop to public expectations than a realistic goal. Since the early FYPs, the imposed sacrifices in consumption have been consistently justified by the promise of abundance in the future and have been viewed as an example of a prudent and farsighted strategy to which many other countries were not equal. It has been felt that if it takes "stronger" measures to restrain the impatient consumption-hungry population, this should be understood and tolerated.

In 60 years, consumption levels, though substantially higher, have not become a high priority goal, and the share of consumption in total production is still relatively low. Thus some other, competing, shorter-term goals were placed higher up in the objective function of the system. Much earlier the Soviet leadership satisfied its goal of becoming a world power, militarily and politically, and of projecting this power far beyond its borders. Internally, the leadership secured its power and hold over the country so as to become one of the most stable regimes on earth. Revealed preference demonstrates that the above "composite good" was a goal in itself. If so, the growth strategy becomes much more

consistent, achievements were secured relatively early, the horizons are much nearer, and the instruments used more rational. The need to concentrate on defense and heavy industry during the 1930s was justified at the time, and obviously later, by the vital need to prepare for a German invasion. The above citation from Stalin and other pronouncements are evidence of Stalin's foresight. That threat, and later exogenous pressures on the Soviet Union to build up its military strength also partly determine the Soviets' chosen goals.

An extreme view is that the maximand is internal and external power building, and that its translation into economic terms is the maximization of the growth rate of heavy industry and defense production capacity. The final use of much of the product of heavy industry, as well as its own expansion, consists of investment goods; therefore high rates of investment become part of the goal rather than just the means to achieve it. Consumption, on this line, becomes a constraint, an intermediate cost of production to be economized. It should be kept at the minimum level feasible to assure internal stability, and at some level of acceptable work incentives (see Wolf's comments in Hildebrandt 1985a, pp. 141-48). These last two minima were termed by Berliner (1983a, p. 43) "the political and incentive thresholds of minimum consumption."

This extreme view need not be fully accepted, and is probably not entirely true. First, it is claimed that consumption or welfare belongs in the maximand, at least as part of the Soviet effort to project the superior nature of the socialist system, and help it win new adherents. Second, it is difficult to explain the drastic changes in consumption trends following Stalin's death on the basis of the above. Also, since that period there has been a significant shift from (mostly) repression to a more mixed use of "carrot

and stick," of repression combined with rising living standards, to stimulate effort. Finally, the repeated official pronouncements on raising the population's welfare as an independent goal cannot be discarded as mere propaganda. The best judgment may be that the welfare of the population takes an intermediate position, being both a constraint and a weak competitor in a crowded objective function.³⁹

Whether the extreme or more moderate view on the objective function is accepted, all the comparisons of the previous section are off the mark from the Soviet point of view. It is not GNP or consumption or welfare per capita that should be compared but levels and rates of growth of total GNP *less* consumption. And if consumption is taken as an input and the stock of capital as part of the maximand, total factor productivity should be measured as total investment *plus* defense per unit of consumption and other inputs. No calculations are needed to show that Soviet achievements, at least until recently, are far more impressive if measured in this way. They would be even more so if expenditures on human capital, most education, and health care services were reclassified as investment.

When investment growth and power building become goals, the apparent contradiction about time preferences also clears itself up. Such goals are fully consistent with haste, high rates of time preference, and short horizons. One manifestation of high rates of time preference is the readiness to borrow at relatively high rates of interest. With very limited opportunities to borrow abroad, "borrowing" was mostly from the future, in

³⁹ This is not far from Berliner's formulation: "But if we are to capture faithfully the aims of the Soviet elite then we must accord first place to military defense, and derivatively to heavy industry, as the aim of economic development. This assumption does not compel us to deny that in some ultimate sense material incentives are their goal" (1983a, p. 140).

two major forms: first, heavy commitment of resources to present growth at the cost of exceptionally high losses of such resources in the future. This form can be looked on as *high depletion rates*, though, as is made clear later, the term is extended beyond its ordinary use. The second form is the postponement of investments with lower yields, mostly in infrastructure, causing much higher current operating costs. The eventual need in the future to make up for postponed investments can be considered repayment of principal on the loans, and the higher operating costs, and excess "depletion" costs as interest payments. Both restrict the potential of future growth. Many specific examples are mentioned in the following pages.

Trading future growth for present growth may or may not be profitable, depending on the relation between the "interest" actually paid and the rate of time preference. Whatever the case, such a policy of haste becomes an additional factor to those usually mentioned in the literature explaining the recent sharp decline in growth rates, or a factor underlying some of the usual explanations.

The following discussion on the main elements of the system and its growth strategy pays special attention to elements of high time preference and haste.

B. The System and Its Operation⁴⁰

The overriding feature of the Soviet economic system is the combination of state ownership of most means of production and of the central planning of production and distribution. Since 1928, the Five Year Plan has been the main instru-

ment of strategic development, and the annual plan its short-term operational translation. Ideally, in such a centralized system the essence of Soviet socialism aspires to have full and sole control over the entire economy; it should be able to define clear targets and to focus on their implementation. In principle, less time should be lost on deliberations and decision making, less must be spent on gaining political and popular consent, and less wasted on secondary missions. In order to assure that directives are obeyed and that the population accepts the decisions on the allocation of resources, a political dictatorship ("of the proletariat") is established, with strong ideological and disciplinary authority and apparati to complement the command economy. The advantages of this system are obvious considering its goals. The main disadvantages many Western observers believe, are that command replaces initiative and entrepreneurship, discipline replaces motivation, and a rigid bureaucratic organization replaces the more flexible market. In many cases the decision-making process gets bogged down in a labyrinth of commissions.

Every shortcoming usually attributed to a bureaucratic organization is found here—and in the Soviet Union the bureaucracy encompasses the entire production sector. If the decisions are right and the structure of incentives reasonable, this kind of system can move ahead rapidly. But mistakes, when made, are also huge and more difficult to correct. The system is at its best immediately after a course is set; it is much weaker later on, when changes in course are required.

The three major elements of the centrally planned system are as follows: (a) production plans are very ambitious—the jargon uses the term *taut*; (b) the main success indicator and the basis for the incentive and reward system are the fulfillment of the annual plan's output tar-

⁴⁰ The literature describing the Soviet system is very extensive. Among many let us mention Herbert S. Levine 1959; John Montias 1959; Bergson 1964; Nove 1977, 1980, 1983, part 2; Michael Ellman 1971; János Kornai 1980; Paul G. Hare 1982; Bortolier 1987, 1978. J. W. 1969

gets; and (c) priorities are set as to which targets to aim at first, when difficulties arise. The most important time horizon for all the above is one year, a short time horizon that should be included as the fourth major element of the system. One year is a reasonable length of time for routine production plans, but is much too short for any important change (organizational or technological) involving disruption of routine performance, especially if the targets for routine production are exacting.

The plans are taut first because of the need to move ahead rapidly. The pressure of the political leaders on planners has been constant since the days of the first FYP. Tautness also aims at stimulating effort and extracting better results at all levels of the command hierarchy and is an important instrument of control and discipline. Because plans encompass the entire economy, *priorities* must be established to fulfill the plans of important sectors first. In this way the low priority sectors become substitutes for the absent reserves or slack in the plan. The *incentive* system must primarily reward the meeting of output targets because they are usually inputs in plans of other enterprises—the most critical links of the plan. Indirect signaling, using prices or profits, can rarely be used as substitutes, chiefly because prices are seldom scarcity prices; thus profits do not mean much. Finally, it is difficult to extend the basic annual planning period, because this would reduce control, especially in production and supply. All the elements combined create a permanent seller's-market environment, an economy of constant shortage, where most efforts are directed at receiving inputs and very little to selling (Kornai 1980, 1986). The salesman and the market expert of a market economy are replaced by the *tolkach*, the "expediter," whose (officially nonexistent) job is to see that supplies arrive on time. Shortages and uncertainty of

supply encourage "intraenterprise autarky" (Vladimir Kontorovich 1985a) as a substitute. Enterprises hoard inputs and establish auxiliary departments to produce spare parts, and in extreme cases even produce food for their workers.

Emphasis on fulfillment of output targets comes at the expense of most other efficiency criteria and leads to a phenomenon termed by Kornai the "soft budget constraint" (1980, 1986). In order to assure fulfillment, plants are ultimately allowed to use more inputs and labor and to disregard costs. Almost by definition, enterprises cannot fail and can count on being bailed out by the authorities when in trouble. It is easy to see that the soft budget constraint is a major source of inefficiency and also severely aggravates the conditions of shortage.

Another feature and consequence of the system of central planning is the strong bias toward short-term goals, to the detriment of long-term results and gains. In general, all inputs at the disposal of the management which, under normal conditions, would be employed in tasks relevant to longer horizons, are diverted to short-horizon tasks. The main consequence is very slow and inefficient innovation and diffusion, a matter we return to below. But this bias affects all changes in the production routine, from simple matters such as changing the supplier of inputs to changing the product mix, stopping production for major repairs, or maintaining a decent system of quality control. Short-term considerations are very costly, such as when equipment is not properly maintained; when oil is pumped out too fast, so that penetrating water damages next year's pumping potential (Goldman 1980, pp. 173–78); when summer fallow areas are sown beyond optimal levels to acquire small short-term gains in grain output (D. Gale Johnson 1983, pp. 133–34); and similar phenomena in investment allocation,

which are discussed later. All the above show a strong tendency to borrow from future production potential.

Finally there is the issue of the trade-off between efficiency and equality under socialism.⁴¹ In principle, remuneration for work in the Soviet Union is according to work performed, which leaves room for substantial wage differentials. Wide differentials indeed existed under Stalin and up to the late 1950s, but they have been narrowed down substantially since then, mainly because of the dramatic expansion of the educational system. Add to this the almost complete elimination of nonlabor incomes, and one would expect to find an income distribution that is substantially more equal than in market economies. Bergson, in a survey in his journal (1984), demonstrated that the distribution of wages is not substantially more equal than in a number of market economies and that incomes are distributed only slightly more equally by similar comparisons. To the extent that equality hinders efficiency in the Soviet Union, it may be the result either of the inefficient use of wage differentials or of the denial of the opportunity to accumulate private wealth and to use it productively. The first problem, if it exists, can in principle be attended to. The second is at the heart of the socialist system and, so far, the state is still in search of alternative incentives or institutional structures that can efficiently replace the highly remunerated entrepreneur or manager of the market economy.

2. Elements of Growth Strategy

The economic system described above can be seen as one complex strategic decision on the Soviet course of modernization. The other strategic decisions are allocative decisions to which we now

turn. Given the goal of maximum growth of the heavy-industry sector and the desire to economize on the growth of consumption, the decision to bypass agriculture, is only natural, at least during the early phases. Early self-development of raw materials and of heavy industrial bases is also connected with one version of going it alone, that is, with autarky. Finally, there is the vector of strategic and policy decisions that come under the umbrella of extensive growth.

Bypassing Agriculture and Collectivization. Leaving the modernization of agriculture for later stages, unlike the "organic" pattern of leading countries, is a classical example of a Gerschenkronian act of impatience by a follower. It was tried before by Witte during the earlier Russian industrialization drive. Agriculture was expected to pay heavy taxes and to export grain to finance an ambitious industrialization drive, which was only moderately successful. Agriculture went through a series of famines, and the outcome was crisis and revolution (1905). Stalin's decision to collectivize agriculture in 1928 (Russia's third revolution) was aimed at least partly at the same goal: first to assume tight control and then to press for rapid industrialization. To this day, the literature debate on the motivations and the outcome of that move is an important part of the bigger debate on "was Stalin really necessary?" (Nove 1964, 1969, 1971; Millar 1970, 1974, 1977, 1981; Millar and Corinne A. Guntzel 1970; Holland Hunter 1983). Views range from "maybe necessary but very costly" (Nove), and motivated partly on political grounds, to "Stalin's major economic mistake" (Millar 1981). Without going into details it is clear that the economic payoff fell far short of expectations in the 1930s and that the Soviet Union is still paying dearly for the decision to collectivize and for the way the decision was implemented. Everyone agrees that one of the main economic motivations

⁴¹ The discussion follows Bergson's survey on this issue (1984).

for collectivization was to "collect," but there was also the belief, based on Marxist learning, that by transforming agriculture into industry-like large-scale mechanized production, productivity would go up.⁴² Early plans called for a large share of agriculture to take the form of state farms, not collectives, but the heavy losses of livestock and grave inefficiencies in state-farm operation caused heavier reliance on collective farms, *Kolkhozi*, where losses and risks are borne by the farmers and not by the state procurement agencies.

The hopes for low-cost productivity gains in agriculture have not materialized to this day; indeed, the sector has been transformed from a net provider of resources into a net absorber of government funds. Since the mid-1950s, when consumption moved up somewhat in the objective function, agriculture went through a series of reforms in organization and in the structure and levels of incentives. Prices paid to farmers were raised; incomes were secured; and the supply of machinery, fertilizers, and other industrial inputs increased dramatically. The share of total investment to agriculture rose from 10 percent in 1950 to about 30 percent since the early 1970s. In 1980 the state subsidized agriculture with 37 billion rubles, about one-third of the value of its production (Trembl 1982, p. 171). More recently they grew to over 50 billion rubles (Colton 1986, p. 153). Subsidies support both input and output prices. Yet despite considerable improvements in performance, Soviet agriculture still lags badly in productivity and is unable to meet expectations of either the leadership or the population.

The initial organization of collectivized agriculture created a small private sector

consisting of a private plot allocated to every farmer and to others as well, mainly for production of food for their own needs, but also for sale in private markets to the urban population. It turned out that these small plots became a major supplier of food not only for the rural but also for the urban sector. The private plot was crucial to the Soviet Union in earlier years and is quite important even today as a major supplier of fruit, vegetables, and dairy products and thus of work incentives to the entire population. Its presence is, however, a constant reminder of the low level of efficiency of socialized agriculture. Although these plots account for only 3-4 percent of total land under cultivation, (animal fodder is grown largely on public land) they yield about a quarter of the entire Soviet food production (Ann Lane 1982, pp. 25-26; Karl-Eugene Wadekin 1973).

Three groups of factors are responsible for the poor performance of Soviet agriculture: the collective system itself as manifested mainly by the curtailment of the direct link between the farmer and his produce; the particular inherent difficulties in managing agriculture by central planning; and the long legacy of neglect, low priority, poor quality machinery and inputs, and poor transport and storage and supply systems.⁴³ All three clearly interact and there is no simple way to assign responsibility. It must, however, be clear that collectivization and central planning were imposed on agriculture for quick results. The immediate benefits gained took a long-term toll, which must be paid now, with high interest.

Autarky. Initial autarky and prolonged autarkic elements were discussed

⁴² Collectivization was, of course, also motivated by the fear of potential resistance to the regime, and by the desire to establish control over and discipline throughout the hostile countryside.

⁴³ Recent summaries on the operation and performance of Soviet agriculture are by Roy D. Laird et al. 1977; Johnson 1982b, 1983; Douglas B. Diamond, Lee W. Bettis, and Robert E. Ramsson 1983. See also Robert C. Stuart 1972; Lazar Volin 1970. On private plots see Wadekin 1973.

in detail above. Let us point out here that the initial decision to go it alone fits perfectly into the formulation of the objective function and the time horizons. There is also a Marxist bias here. Even if faster growth could be achieved by developing agriculture first for trade purposes it would not have fulfilled the objectives as fast as desired. True, heavy industry could not be developed solely on the bias of previous Russian technological achievements, hence the one-time rush to collect a basket of up-to-date modern Western technology in 1929-32, on the basis of which self-growth proceeded. As shown above, autarky in the sense of very low trade proportions no longer exists—nor has it for some time. Even the goal of self-sufficiency in essential needs was relaxed with respect to agricultural products. The most important remaining element of autarky under the present Soviet practice is the high degree of isolation of the economy from world markets. Restrictions on most kinds of contact and the very limited connection between internal prices and world prices deny the Soviet economy the beneficial efficiency impact of such relations.⁴⁴

The Extensive Model: Mobilization. One of the cornerstones of the Soviet growth strategy is the mobilization of a maximum number of inputs to the growth effort. This is the input side of the extensive growth model. Most of the factual evidence and some of the policies

of this drive were described in a previous section, and we concentrate here on a more general discussion of its sources and implications.

Mobilization of inputs first serves the major goal of rapid growth and catching up. It fits in very well with the nature of the system and with the regime of growth via pressure. It is also a rational and convenient source of growth at early stages, when labor participation rates are very low and growth leverage through a rise in the initial small capital stock is very powerful. Mobilization of inputs is also consistent with the Soviet objective function, which gives the standard of living and general welfare of the population a lower priority level. Investment levels are higher at the expense of consumption and there are heavy pressures to work harder and to use one's leisure to produce services for oneself.

Some aspects of mobilization are also consistent with socialist ideology and Marxist doctrine. The Marxist labor theory of value and the elimination of most nonwage sources of household income created economic and political motivations to join the labor force. The economic incentives affect household behavior directly; they are reinforced by laws requiring all able-bodied men to work and by educational and indoctrination campaigns. These, together with the doctrines of equality between the sexes and of the economic independence of women, also contributed (again with the help of economic incentives) to the rapid rise in the participation of women in the labor force. Similarly, the high rates of capital investment, especially in producer goods, are an integral part of Marxist growth theory. Marxist doctrine also influences the pattern of investment, as we shall see below.

The input mobilization side of the extensive model is necessarily temporary; the relative increments of inputs must

⁴⁴ With the dramatic rise in trade volume some influence of world prices on domestic prices do emerge, especially when world prices changes are as extreme as in the case of energy prices in the 1970s. It is indicative that many price changes in the Soviet Union take the form of changing retail prices without changing the price paid to producers. But there were also some price changes of machinery and equipment in spheres associated with imports and/or exports. In most cases price adjustments of this sort are partial and occur with a considerable time lag. See Trembl 1980, pp. 191-98; Trembl and Kostinaky 1982.

decline over time and hence, too, their contribution to growth. If a strong element of haste is also introduced, exhaustion will be further hastened. The decline in the rate of growth of labor comes naturally after reserves are utilized and the rate of rise of labor inputs converge with a declining growth rate of the population. While the decline in the population is partly a natural corollary of economic modernization and partly a direct outcome of World War II, it was very likely accelerated by pressure, especially on women and mothers, to join the labor force, by other pressures on free time, and by the low consumption, especially of housing and household amenities.

At present, it is clear that the labor potential for extensive growth is exhausted. Given the heavy value placed on growth, and the relatively limited value awarded to consumption, population growth must be welcomed by the system's directors. Therefore some policies believed to be responsible for declining birth rates have been reversed during the past decade (Gail Lapidus 1978, 1982; Feshbach 1983; Feshbach and Rapawy 1976; Jeffrey W. Hahn 1982; McAuley 1981; Paul R. Gregory 1982, 1983; Berliner 1983b; Baldwin 1979; Rapawy 1976; Goodman and Schleifer 1982).

The fact that the contribution of each unit of *capital* to growth must decline in the extensive model is the essence of this model. Extensive growth may be defined as a growth path along which capital grows at a (much) faster rate than output. Given the relatively slow growth of labor, this path will be followed whenever overall productivity growth is lagging. A necessary condition for rapid growth is that the share of investment in GNP grow monotonically, for it takes a larger share of a slower-growing GNP to keep the growth rate of a faster-growing capital stock constant. Only productivity growth at a rate that equalizes the growth rates

of output and capital can avert this outcome, and its absence is what makes Soviet growth extensive. Bergson, who pointed out this application of growth theory to the Soviet record, also demonstrated that in order to sustain a 2.5–3 percent contribution of capital to output growth, assuming low productivity growth, capital has to continue to grow at 8–9 percent. This, however, would push the share of investment in GNP not only far beyond the present 30 percent level but also to the point where noninvestment uses would begin to decline in absolute terms (Bergson 1973, 1975). In order to avoid this, investment shares must stop growing and the growth rate of investment must decline to the rate of GNP growth. This, in turn, reduces the growth rate of capital, which will eventually also converge to the rate of growth of output, leading to a decline in capital's contribution to growth. Such developments have indeed been taking place over the past decade, and the contribution of capital to growth had declined to only one percentage point (Tables 1 and 3). The leadership's concern over this development is evidenced in the apparent reversal of the declining trend of investment growth in the current (12th) FYP (Hewett 1985, pp. 300–03).

Haste to reach the upper limit of the investment share is in itself a no-cost loan from the future, provided no loss is incurred by speed. Even so, later growth rates of output are bound to decline. Costs are involved if the speed at which the capital stock is growing adversely affects both its quality and that of the embodied technology, the lead time of construction, and the efficiency of installation and of eventual production. The literature abounds with examples of inefficiencies in all these aspects; there is no question that a slower pace would have been much more efficient and that

a reserve of potential increase in the investment share could have been built up (Cohn 1970, 1976a, 1976b, 1979, 1982; Boris Z. Rumer 1982, 1984a, 1984b, 1984c).

Finally, it should be pointed out that with near zero growth of labor, the extensive growth turns into growth led solely by capital. Such an extreme imbalance between capital and labor adds to the difficulties in the introduction of new capital, and further reduces capital and overall efficiency. We shall also come back to this aspect.

Specific Investment Policies. The classical Soviet investment strategy first follows the objective function in directing the lion's share of investment to producer-goods industries. The concentration of investment in such industries ("Sector I" in Marxist terminology) is the key to rapid growth in Marxist and Soviet growth models. A second Marxist and Soviet distinction is between "productive" and "nonproductive" investments. The latter include all investments in services such as housing, urban infrastructure, and consumer services, as well as in public administration, banking, and other business services. A third preference of Soviet investors is for investment in core production processes as against auxiliary functions, which are left to simpler, labor-intensive technologies. One motivation for such a policy is to allow the concentration of scarce capital in key processes that absorb the most advanced Western technology and that are usually highly capital intensive. In this way, the most important technologies can be incorporated, while the overall capital/labor ratio remains low and reflects Soviet factor availabilities. This aspect is developed in detail by David Granick (1967, Ch. 6). Another aspect of this preference is to start production early, putting off auxiliary functions for later, also a manifestation of the haste strategy. Under

such a policy, investments in transportation and communication networks, in storage and shipping facilities, and in urban infrastructure are all postponed or minimized in order to concentrate on "real" production. In many cases the investment requirements for infrastructure or transportation are very large and the payoffs indirect and slow, so capital productivity without them may be higher in the short run.

One example of such preferences is the development of the raw material bases in Siberia with very limited investment in infrastructure and in industries of both consumer, "nonproductive," or productive types (Rumer 1984a; Cohn 1976b)—a clear example of haste. Another is the constant underinvestment in the transportation network (H. Hunter and Deborah A. Kaple 1982).

Another important manifestation of such investment policies is the comparatively lower level of urbanization, at least until very recently. On the one hand, directing investment to manufacturing raised the capital/labor ratios beyond "normal" levels and left those in agriculture abnormally low. Such a shift in the capital/labor ratios was also desired because it helped reduce the required rural-to-urban migration and hence the urban infrastructure needed. Economizing on urbanization was also achieved by the demand that every able-bodied migrant participate in the labor force, by a lower demand for labor for urban services, and by limitations on construction of infrastructure for services. The amount of urban infrastructure per capita was also minimized. A final advantage of the policy of economizing on migration to cities is that it helps limit consumption and consumption expectations. Rural populations do not need as many services as do city dwellers and their expectations for improved consumption develop much more slowly. In pursuing such a policy

the Soviet authorities made it difficult for people to move freely to the cities. Until recently collective farm members did not have personal passports and were not allowed to leave their farms without permission. Moreover, permission to reside in major cities still had to be obtained (see Ofer 1976, 1977, 1980a; on East Europe see Eva Ehrlich 1973 and G. Konrad and I. Szelenzyi 1974).

Another distinctive feature of Soviet investment policy is the overconcentration of investment in new plants compared with replacing equipment in existing enterprises. Such a pattern, very natural in the early stages of industrialization, has prevailed in the Soviet Union to the present (Cohn 1979, 1982; Hanson 1981, 1982b). The main reasons are the relative ease of planning and directing new plants from the center compared with planning and enforcing replacement investment in existing enterprises. One corollary, but also a possible consequence of the policy, is that service lives of machinery and equipment in the Soviet Union are extremely long (Cohn 1979).⁴⁵ Pressures to meet exacting output targets also contribute to the reluctance on the part of managers to introduce new and retire old equipment. Such old equipment needs much maintenance and repair, another form of "interest" payments due to haste. A second consequence of the concentration of investment in new plants, when combined with the general pressure on current production, is the increasing stock of incomplete projects. Such stocks hold up production and delay the introduction of new technologies. Finally, investment in new plants raises the proportion of construction in total investment, thus again reducing its technological content (Cohn

1979, 1982; John A. Martens and John P. Young 1979; Hanson 1981, Ch. 4). A of late, Soviet planners have tried to tackle these problems by cutting down on new projects and by redirecting investment to the replacement of equipment in existing enterprises (Kontorovich 1985b; Grossman 1953, 1955).

While resisting the introduction of replacement equipment, plant managers overdemand investment funds, also as part of their effort to meet exacting production plans. Accumulated excess capacity can help meet production norms under conditions of frequent shortages due to equipment failures and supply interruptions, and can be used to produce unobtainable spare parts for oneself, albeit at high cost. Similar factors, as well as rigid pricing policies and low-quality production, lead to high investment in inventories. The long tradition of no charge or low charge for capital funds also contribute to excess demand. The accumulated capital "reserves," which are quite significant despite the strong rationing efforts of the planning authorities, also contribute to the low level of capital productivity.

Soviet investment policies, in summary, reflect first and foremost the allocation decisions embodied in the growth strategy, including many elements of haste and high time preference. They may also reflect the ability of a center to internalize and take into account external effects of urbanization. Finally, they respond to particular systemic and organizational difficulties, as observed in the bias in favor of new plants and against replacement investment.

Our review of the Soviet growth record and our discussion of the nature of the Soviet system (Sections III-V) have pointed out the significant differences between the Stalinist and the post-Stalinist eras. In many respects, however, the en-

⁴⁵ Until after Stalin's death obsolescence was not recognized as a legitimate reason to retire equipment.

period can be seen as belonging to the same basic system and growth strategy. By way of summary let us point out the most prominent differences and similarities.

The most striking difference is, of course, the substitution in the post-Stalin era of some coercive and punitive measures with more generous increases in consumption levels. From the population's point of view, this was indeed a revolutionary change, and not only in the economic sense. In terms of the objective action discussed above, the weight allotted to consumption was clearly increased. In the early years of the post-Stalin era consumption could grow out of resources that became available through postwar reconstruction, from the decline in defense spending, and from efficiency gains created by the relief from oppression. The change in investment patterns, however, was very small or nonexistent. Indeed, the share of investment in GNP continued to climb until the early 1960s, when it reached a plateau of 28-29 percent in gross fixed investment (Table 3). The level of investment could not be allowed to grow any further if the aspired for increase in consumption and defense was to be achieved.

In the post-Stalin period, although the attention was paid to agriculture and international trade, there was no change from the extensive to an intensive model, nor were there any significant changes in the basic system and its modes of operation.⁴⁶

VI. *R and D and Technological Change*

The obverse side of the coin of the extensive model of growth is the rela-

tively (and eventually absolutely) small contribution of the rise in overall productivity to Soviet growth. Research and development (R and D) and the introduction and diffusion of new technologies into the production system are among the major potential contributors to advances in productivity in general. In the Soviet Union, however, they are among the main victims of the central planning system and of the policy of haste. Considering the central role of productivity growth and technological change in the growth process of most other countries (Kuznets 1966, Chs. 1 and 10), Soviet technological performance must be carefully examined and evaluated.⁴⁷

The slow pace of technological change was certainly unintentional. On the contrary, technological change as a main aspect of economic modernization was always emphasized by Soviet leaders; allocation of inputs to R and D activities was always relatively generous; and there seem to be good a priori reasons to assume that a centrally planned system should favor rapid technological advance. The results must, therefore, be attributed largely to unanticipated negative consequences of policies in other spheres and to the economic system. Bruce Parrott (1983, Ch. 2) suggests that the difficulties in R and D and technological change are due partly to the leadership's underestimation of the requirements for success.

Technological change under a centrally planned system has a number of advantages over a pure market system, where

⁴⁷The literature on this topic is abundant. The major recent works are Berliner 1976; Ronald Amann, Julian Cooper, and R. W. Davies 1977; and Amann and Cooper 1982; the three-volume work by Antony C. Sutton 1968, 1971, 1973; Hanson 1981; Parrott 1983; Bornstein 1985; and many earlier works. These books include surveys of earlier works and many references. The following is based mostly on Berliner 1976; Amann and Cooper 1982, Ch. 1; and on Hanson 1981, Ch. 4, which is a concise but very good summary of the main issues.

⁴⁶On the question of how distinct these two periods are from one another see Bergson 1986, pp.

externalities and market failures reduce its efficiency. Lange (1938), among others, applauded the economic advantages of socialism in large degree on the basis of these advantages. In a centrally planned system, the center in principle, can formulate a national scientific technological development program based on all available information and in accordance with national priorities. It can then build the organizational structure for its execution; secure the needed resources, manpower, and funds; and monitor implementation throughout the entire innovation cycle, from basic research through diffusion. All potential benefits from innovation can be readily internalized and no information or patent-protection barriers would prevent rapid introduction and diffusion. Indeed, many market or mixed Western economies are taking similar measures of government intervention to avert market failure, albeit very selectively.

Of the above list of *a priori* or assumed advantages, a number were actually realized: First, a vast institutional infrastructure for science, R and D, and diffusion of innovation was built, usually generously and consistently funded and staffed. Today the Soviet Union probably outspends the U.S. (as a fraction of GNP) and employs a larger work force of technicians and scientists than does the U.S. on R and D (Bergson 1983b, pp. 53–56; Louvan E. Nolting and Murray Feshbach 1979, 1981; Nimitz 1974; Eugene Zaleski et al. 1969).

A second realized advantage is what Berliner terms *mission-oriented projects*, which are major investments decided on and executed by the center on a top-priority basis. This occurs mainly in new plants, which are thus shielded from the disruption of ordinary production activity and intervention by lower-level authorities (see below) (Berliner 1976, pp. 504–18). Many of the Soviet technological

achievements, notoriously in the military and space sectors are outcomes of such mission-oriented projects.⁴⁸ However, only about a quarter of all projects involving major new technologies are directed from the center proper, however, the rest are left in the hands of ministries and lower-echelon authorities (Hanson 1981, Ch. 4).

Finally, it is also generally agreed that Soviet science as such works at a high level in a number of fields (Loren R. Graham 1984, pp. 124–27); however, the danger in a dictatorship of Stalin's type is that science comes to a dead end when dictators decide on the "right" direction of scientific advance. In the Soviet case this happened on a large scale at least twice, once when Stalin forbade the use of mathematical methods in planning and economics (Wassily Leontief 1960), and again when Stalin and Khrushchev drove biology into an impasse (Zhores Medvedev 1969). These are just two notorious examples of a general tendency.

Despite the advantages, many R and D efforts fail to achieve the desired result because they are frustrated by a multitude of weaknesses and drawbacks. The combination of bureaucratic planning and command, of a flawed reward system, and of pressure for short-term production outcomes, helps create an inhospitable environment at all stages of the innovation cycle.

The discussions of innovation in the Soviet Union concentrate on three areas: the R and D sector itself, the separation between the R and D and the production sectors, and the problems of introducing and diffusing innovations within the production sector.

⁴⁸ Hanson (1981, p. 67) is right in proposing "that the design of the Soviet system was aimed, in part, precisely at carrying through large investment projects, and at facilitating a process of technological change in which the construction of new plants played a dominant role."

The R and D Sector

Traditionally, basic and applied research, development, and even much prototype production and testing in the Soviet Union are confined to special research institutes belonging either to the various academies of science or to production ministries. Each has its own projects, and reports upward within its own institutional hierarchy. Comparing the main characteristics and needs of R and D everywhere and the major attributes of the Soviet production system discussed above, one observes a number of conflicting features. R and D needs reserves and slack; but the system is very tight and operates on the basis of shortages. R and D requires flexible supply lines, free-form plans, and open time horizons and does not always have clear results; but the supply system is rigid and plans are routine, bound by time, and expected to be strictly met. R and D requires organic and flexible modes of organization and free multidimensional (especially lateral) interaction and connections, but it faces rigidly structured, hierarchically directed organizations. R and D needs autonomy as one condition for initiative and creativity; but it is restricted by discipline, regimentation, and conservatism. R and D needs challenge and competition; but it operates in a seller's market where low prices are not always a virtue. Many R and D projects are by nature small-scale; but the Soviet system is geared to deal with large-scale routine production. R and D needs a free flow of information; but the system is both highly departmentalized and shrouded in a dense screen of secrecy that extends far beyond what is usually considered state security, to say nothing of interaction with the outside world. R and D needs to be rewarded by the end result of its efforts, not by the number of projects or papers com-

pleted; this, however, is very difficult to accomplish, and the Soviet reward system is indeed based on such less meaningful "production" assignments. In short, R and D works best with flexibility, autonomy, change, slack, free interaction in all directions, all of which are in extremely short supply and very costly under the Soviet system.⁴⁰

B. Interaction Between R and D and Production

According to the traditional organizational methods, Soviet R and D institutes have been separated almost completely from production enterprises. Whether they belong to the Academy of Sciences or to a production ministry, their formal connection with enterprises is through the ministerial hierarchy. This separation between R and D and production is considered by many observers, inside and outside the Soviet Union, to be a major obstacle to the introduction and diffusion of innovations (Bornstein 1985, p. 33). The difficulties created by this separation are easy to see: Research institutes follow their own goals and plans, which are detached from those of enterprise managers; they have only partial information on the client's needs; and there is no unified system of responsibility for an innovation from its inception to its introduction and use. Enterprise managers complain that many innovations are too expensive, that prescribed inputs are not available, and that introduction is not followed up by the R and D staff.

C. Introduction and Diffusion of Innovations

While separation is a real handicap, it may well be considered less so when

⁴⁰The literature offers innumerable examples on problems of the R and D sector and on difficulties resulting from short-term considerations, including, among others, Berliner 1976, Ch. 4; Hanson 1981, Chs. 3 and 4; Bornstein 1985, Ch. 2; Parrott 1983; Zaleski et al. 1989; Ofer 1990b.

- Yoon, B. J., 824 (p. 2222)
 Young, H. P., 321
 Young, L., 411
 Yu, S. S., 611
 Yunker, J. A., 321 (p. 2183)
- Žalac, M., 113
 Zacher, M. W., 422
 Zagari, E., 031
 Zaghini, E., 022 (p. 2142)
 Zalai, E., 027 (p. 2151)
 Zamagni, S., 022; 012
 Zame, W. R., 026 (p. 2150); 022
 Zanardi, G., 211
- Zanetto, G., 731; 941
 Zapata, H., 313
 Zarnowitz, V., 132 (p. 2160)
 Zaslavskaja, T. I., 052
 Zeckhauser, R., 913
 Zeira, J., 431
 Zick, C. D., 921
 Ziderman, A., 821
 Ziemer, R. C., 322
 Zietz, J., 422
 van Zijl, T., 313
 Zilberfarb, B.-Z., 421 (p. 2191);
 221
- Zilberman, D., 722
 Zilcha, I., 022 (p. 2137)
 Zimmer, M. A., 824 (p. 222)
 Zimmermann, H., 313
 Zimmermann, K. F., 621 (p.
 2205)
 Zinnes, J. L., 531; 531
 Zivney, T. L., 313
 Zlatoper, T. J., 615, 921
 Zuber, R. A., 313
 Zubrow, R. A., 324
 Zuidema, T., 822
 Zuo, M., 052

This discussion reflects the literature's valuation of Soviet R and D activity in the civilian sector. In almost all cases, exception is made for military R and D, where, as most scholars agree, performance is far more successful and achievements are impressive.⁵⁰ It is of interest therefore, to explain the sources of the excess of military R and D in so far as they further explain or qualify the observations on the relationship between the Soviet system and its growth strategy and technological change. All students agree that Soviet military R and D consists of top-priority, mission-oriented projects and directed from the center. In addition to the priority allocation of highest-quality manpower, funds, and facilities; smooth supply lines; more lucrative incentives; and more flexible organizational modes, military R and D is also isolated from the aggravations, barriers, and problems of ordinary bureaucratic planning. Priority treatment is by definition selective, and the benefits it awards translate into costs to the excluded sectors, in this case especially civilian R and D. One aspect of the above-mentioned isolation, combined with the heavy secrecy screen, is that the military allows almost no spin-off of innovations to the civilian sector. Recognizing its weakness, the military developed the capacity to self-supply, and aims all its requirements in-house. In the short- or medium-run this policy secures military needs at a heavy cost to the civilian sector. In the longer run, including the past 10-15 years, the military is bound to grow more dependent on the level and infrastructure of civilian R and D. The price of

impatience and haste is being paid now, with civilian R and D unable to support expanded military needs.

There is some disagreement in the literature on the extent to which military R and D is immune to most of the system's ills and about the true quality of Soviet-developed military technology, about the level of efficiency of military R and D when both inputs and the technological content of new weapon systems are appropriately measured, and finally, about the extent of real trade-offs between military and civilian R and D activity. But even here, the inability of the system to generate new technology across a wide spectrum of military and civilian projects at the same time is underscored by most scholars.⁵¹

There are two rational economic responses to comparative disadvantage in technological change, or to the undue expense of R and D: one is to import technology, the other is to economize on the use of R and D by substitution with other inputs. Both courses of action have been followed in the Soviet Union.

Importing Western technology was a main tool of technological advance all along; only the method shifted in the early 1960s from "borrowing" and reverse engineering to commercial purchases of equipment, entire plants, and technological know-how, as described above. Sutton (1973, p. 370), who reviewed the Soviet technological advance in hundreds of technologies over 1917-65, found it was almost all due to importation, with only a very small Soviet indigenous contribution in a small section of all technologies. While imported technology clearly contributed to the Soviet economy, the success was less than expected or hoped for and very little indigenous capability was generated by it. This is testimony to the fact that not only

⁵⁰ This is even pointed out by Sutton (1973, p. 370), who probably takes the most critical view in the West of Soviet technological abilities. For a discussion of this issue see David Holloway 1977, 12, 1983; Berliner 1976; Becker 1986; Arthur J. Alexander 1978; Nimitz 1974; Parrott 1983; Ofer 1986.

⁵¹ See references cited in the preceding footnote.

the R and D sector but also the production sector, with its problems of introduction and diffusion of innovation in existing and new plants, share responsibility (Hanson 1981, p. 53).

The discussion in this section has not made the distribution between technological changes of a leading country consisting mostly of major new innovations at the world frontiers, and technological changes of an essentially follower country that consist of borrowing, adapting, and improving such innovations. The Soviet Union clearly aims at joining the leaders, at least in some (e.g., military) fields; however, the discussion so far, including that on technological transfer, should have made it clear that the Soviet Union faces increasing difficulties even in sustaining its position as an effective follower.

The second response to the high cost of R and D is the conservative nature of research and development activity—military and civilian alike. Conservatism shows up in the marginal-improvement approach to innovation and in the maximum use of off-the-shelf parts and components. It was first introduced in the 1930s, when the decision was made to concentrate R and D effort on “replication, modification and scaling up of existing Western models” (Ronald Amann 1982, p. 19)⁵² and was incorporated into the system as one of its conditioning elements, making it difficult to abandon later (Amann 1982, pp. 23–24).⁵³ Hanson clearly reflects the accepted view in stating that “Soviet systemic weaknesses in innovation extend quite widely and are by no means confined to innovation and

diffusion at existing enterprises” (Hanson 1981, p. 74).⁵⁴

Hanson further concludes that “there appears to be something approaching Soviet conventional wisdom which, by implication, also holds that the USSR has major relative weaknesses in technological performance” (1981).

VII. *Why Did Growth Rates Decline?* *Production Function Estimates*

The discussion of growth strategy and the economic system sheds light on the systemic sources of growth, on its structural patterns, and, among other things, on possible reasons for the secular decline in growth rates. Three major explanations for this decline emerge: First, extensive growth is by nature exhaustible as manifested in the unavoidable decline in the growth rates of inputs. Second, technological change and improved efficiency failed to replace input growth; in fact, the contribution of technology declined over the years, reflecting the increased difficulty of borrowing Western technologies cheaply. Finally, the de

⁵² On the decisions on R and D policies in the 1930s see also Parrott 1983, Ch. 2.

⁵³ Conservatism sometimes helps create the false impression that R and D is more productive than it really is. The fact that lower R and D content is embodied in seemingly similar products is sometimes overlooked. See Alexander 1978 and Ofer 1980b.

⁵⁴ Sutton's conclusion, at the end of a three-volume study of the history of Soviet technological activity is that “the system cannot develop technically across a broad front without outside assistance; internal industrial capacity can be expanded only in those sectors suitable for scaling-up innovation and duplication of foreign techniques” (Sutton 1973, p. 419). A less extreme, but similar conclusion was reached by a group of researchers in Birmingham, after completing a large comparative study of Soviet technological capabilities (Amann, Cooper, and Davies 1977; Amann and Cooper 1982). Amann writes that the study confirms earlier Western accounts of the negative systemic impact on Soviet innovation processes “These systemic features appear to apply equally to all case studies in our sample with the exception of the military sector” (Amann, Cooper, and Davies 1977, p. 18). And a final conclusion, five years later formulated a “rough hypothesis that successful innovation appears to be associated with a high level of government support, preferably of a longstanding and stable kind, low cost, average or below average research intensity and low level of ‘complexity’ in the sense of interdisciplinarity of research fields or close dependence on other industries” (Amann, 1982, p. 7).

cline in growth was accelerated by the strategy of haste. Haste not only made the growth curve decline more steeply but has also been partly responsible for the difficulties encountered by the Soviet economy in shifting to an intensive path. Haste has contributed to the present low rates of growth mainly by accelerating the exhaustion of extensive growth and by accumulating numerous bottlenecks in the production system, creating backlogs in needed investments—all of which must be paid for now. Haste makes change difficult because it has a negative effect on R and D and because it limits the feasibility and prospects of economic reform.

The literature discusses a number of other factors that contribute to the downward trend. The first is the growing complexity of the economy. This argument maintains that planning from the center was reasonably simple in a more primitive economy, which produced a more limited number of products and had a clearer vision of how to translate goals and priorities into production plans. But as an economy becomes more advanced and complex the number of options and variations multiply, the amount of required information and coordination grows at a much faster rate than the economy itself, and it becomes more and more difficult to cope in spite of technological and theoretical advances in data management and planning. While in the early stages learning and improving the system may have been dominant, most students feel that at some point in recent decades, greater complexity turned the balance (Bergson 1983b; Levine 1982b).

Second is the persistent and increasing drag on growth caused by the large and rising size of defense spending. As we have seen, the share of defense spending in GNP has been increasing slowly since 1959 (Tables 1 and 3). Numerous studies have attempted to estimate the func-

tional relationship between growth (via investment) and defense, and between consumption and defense, but the trade-offs correspond fairly closely to the amount of resources engaged. None of the studies discovered either special windfalls coming from the transfer or particular obstacles that might limit the trade-off to less than one ruble for each ruble taken from defense. It seems to me, however, that the emerging one-to-one relationship in most studies is built into the models through assumptions.⁵⁵ Even the evidence gathered over the past decade, when the real rate of growth of defense was drastically cut—mostly through a near freeze on the growth of procurement—is far from conclusive (Kaufman 1985). It is, reasonable however, to assume that lower defense burdens and slower defense growth rates could (in the past) have brought, and may (in the future) bring, some small measure of relief to overall growth and consumption (Becker 1985; Kaufman 1985).

A third factor contributing to the decline of growth is the weakening of the material incentive system as a result of the inability to fulfill the production targets for consumer goods. Declining growth cuts first into consumption increments, a low-priority target, which in

⁵⁵ Thus Sovmod, the leading macro model of the Soviet economy, yields the finding that the transfer of 1 percent of the growth rate of defense (= 0.14 percent of GNP) to investment, at 12 percent annual return, can add about 0.018 percent to annual GNP growth. Because marginal capital/output ratios are rising (see below), this is not a very productive trade-off. Alternatively, Sovmod students as well as M. M. Hopkins and Michael Kennedy, Hildebrandt, and others studied the trade-off between defense and consumption and found that, at most, after a few years, the resources released from defense could be transferred, ruble per ruble, to consumption: approximately 0.33 percent growth in household consumption per each percent drop in defense spending (Daniel L. Bond and Herbert S. Levine 1982; Hopkins and Kennedy 1984; Hildebrandt 1982b; Becker 1982, 1986; Lars Calafors and Jan Rylander 1976; and others; see references in Becker 1986).

turn has negative effects on work motivation and efforts, thus further reducing growth. If, to avert these effects, the wage bill is kept higher than the realized consumption bill, repressed inflation emerges to add another source of frustration. A "second economy" developing alongside the main, public sector takes another bite from the effectiveness of the public sector but must be tolerated because of its beneficial effect on work motivation. Heavy drinking is another refuge from dissatisfaction. In the Soviet context, where material incentives fail to meet their target, efforts can be redirected to disciplinary actions about which there have been some recent reports.⁵⁶

The effects on Soviet growth rates of most of the factors mentioned so far were defined in qualitative terms and many will have to remain so until ways of quantification are developed. Nevertheless, some effort has been made to quantify the more elusive elements in the Soviet growth equation beyond the common division into growth of inputs and the "residual" of output per unit of input. The quantitative study of the residual proceeded along two lines: The first follows Denison, which peels away at the residual, layer by layer, and accounts for a long list of factors that were not included earlier as "inputs" (Edward F. Denison 1967, 1974, 1979). The second consists of alternative estimates of production functions. Denison's method was first used by Kaplan (1969), who was also the first to show that the decline in GNP growth was due not only to lower input growth but also to declining productivity. Denison's method was then used extensively, mainly by Cohn (1970, 1976a,

1976b) and Bergson (1973, 1983b). In a recent work, Bergson, concentrating on both GNP and the material production sectors only (GNP less most services), starts from a "basic" residual, after capital, annual labor hours, and land are taken into account against output. In order to isolate the part of the residual that most closely measures technological progress proper (TPP), Bergson (1983a, pp. 41-49) adjusts the basic residual to take out the following:⁵⁷

- a. Rising quality and productivity of labor resulting from increased levels of education and decline in work hours.
 - b. Depletion of natural resources and declining quality of farmland.
 - c. Productivity gains from the movement of labor from farming to nonagricultural employment and from economies of scale.
 - d. The effect of planning reforms and other organizational changes.
- Here Bergson speculates that the increased complexity of the system offsets any gains emerging from such reforms.
- e. The significant negative impact of bad weather over 1970-75.

A summary of the resulting calculations for the material sectors over 1950-75 is presented in the following table (rounded percentages of average annual growth; Bergson 1983a, p. 49):

Period	Basic Residual	Adjustments	TPP
1950-60	3.6	0.7	2.9
1960-70	1.8	0.8	1.0
1970-75	0.3	0.1	0.2

⁵⁶ On repressed inflation, the second economy, and alcoholism as disrupting efforts and motivation see Grossman 1982a, 1982b; Vladimir Kontorovich 1985b; Fyodor I. Kuskirsky 1984; Birman 1981; and many others. On causes for declining growth see also Levine 1982.

⁵⁷ Cohn also makes adjustments for changes in age and sex composition but they turn out to be small. He also divides capital into residential, nonresidential, and inventories (Cohn 1976b, pp. 53-54).

Calculations of TPP for 1975-85 would most likely produce similar results to those for 1970-75 even though the residual is eliminated altogether (see Table 1). Bergson collects further qualitative evidence in support of the result of the calculation that the technological performance of the Soviet Union is indeed inferior, especially for a country that still has considerable catching up to do.

The big challenge to this method of analysis and its conclusions came with an article by Martin Weitzman in 1972. He challenged the entire "trinity" concept consisting of Bergson's method and findings, the CD production function, fixed input shares, and declining residual, and presented estimates of a CES production function for Soviet industrial output. These, he claims, achieve a better fit to the data than the CD function and yield the following findings and conclusions.

First, the elasticity of substitution of capital to labor was estimated at about 0.4, rather than the assumed 1, and the residual, the indicator of technological change, was estimated at a constant rate of about 2 percent annually. Weitzman's conclusions were: "By this time [the late 1960s], a low elasticity of substitution seems to imply that capital accumulation has outstripped labor growth by a wide enough margin that the drag due to diminishing returns is significantly cutting into output growth" and "The present emphasis on diminishing returns is very different from the somewhat more usual factor productivity approach. Accordingly, the sharply diminished growth of factor productivity usually emerges as the main reason for the Soviet slowdown" (p. 685). Over ten years later, after many more production function estimates by Weitzman and others, the same conclusion is reasserted in even stronger terms: "If we are to believe this approach [the CD method], the growth of the residual

has declined rather dramatically from 5 to 6 percent [*sic*] in the early fifties to about 1 percent in the late seventies. Such a conclusion is a bit difficult to absorb in its entirety . . . [among other reasons because] far greater attention is paid to questions of economic efficiency in more recent years than in the past" and "An alternative historical explanation to the Soviet industrial slowdown is not to make the residual take all the blame, but to allow a low elasticity of substitution to share some of it" (1983, pp. 185-86). Before tackling the main issue, it should be pointed out that Weitzman's CES estimates offer an alternative interpretation to the end of the extensive model. It came about not only when the share of investment in GNP hit the ceiling, but also because the marginal product of capital declined, where capital is the only growing input.

The real disagreement is about what caused the slowdown and therefore about how to try to reverse it. One must first spell out the technical aspects of the two interpretations. We do so in a world where capital is growing much faster than labor, just as in the Soviet Union. When the elasticity of substitution is smaller than one, the share of capital declines with time (the same capital series multiplied by a declining rate of return), causing the rate of growth of combined inputs to decline as well, leaving a higher residual. Because the declining capital share is monotonic, it almost "replaces" the decline of the residual under a constant-shares assumption. In this way, the same data support both versions.⁵⁸ While a

⁵⁸ This conclusion must be qualified, as it is based on the unlikely assumption of Hicks neutrality of the technological change assumed in the CES estimates. A capital using bias in the technological change, as is most likely the case, would mitigate the pace of decline of the marginal productivity of capital and of its share, and as a result the residual may now decline also under the CES estimates. This criticism of conventional CES estimates made by Moses Abra-

number of papers over the last 15 years claim statistical superiority for the CES interpretation (Padma Desai 1976; Rosefelde and C. A. Knox Lovell 1977; Gomulka 1977; Toda 1979), I tend to agree with Weitzman's most recent statement on this matter: "... without further information we do not know how to decide on statistical grounds alone between the two alternatives" (1983, p. 187).⁵⁹

More important than the debate over econometrics is the question, to what extent do the two interpretations tell two distinct, mutually exclusive stories about the basic reasons behind the observed phenomena. We would like to stress a point, occasionally made in the literature, that a declining marginal productivity of capital, as in the CES theory, can result as much from weaknesses in, and misdirection of R and D activities as from problems of investment policy. Similarly, a small and declining "residual" can stem both from unsuccessful R and D and from suboptimal investment policies. Previous discussion in this paper provided many

reasons for the productivity of capital to decline. But under conditions of labor shortage it is also definitely the responsibility of R and D to provide the right kind of labor-saving innovations that can make the absorption of new capital more efficient and avert its declining productivity. This point is stressed by Kontorovich (1985a), who claims that lack of labor-saving innovation in new capital is responsible for the continued creation of labor-intensive workplaces with no workers to man them (1985a; Josef C. Brada 1985, p. 126). It seems, therefore, that the two different production function interpretations provide little help in resolving the real issue.

Most recently, Weitzman (1983, p. 187) seems to agree, at least in part, with the above when he states that both suboptimal investment policy and unsuccessful R and D must share the blame for low growth. More important, he also says that whatever the diagnosis, the only way to reverse the trend of declining growth rates is by much heavier reliance on technological change. If Weitzman was willing to compromise, so was Bergson. In his latest contribution on this issue Bergson also included, in the variants of residual analysis to be considered, estimates with an underlying CES production function with elasticities of substitution of 0.5. With 12 and 6 percent return on capital he obtains the following results for the material sectors (annual average growth rates of the residual; Bergson 1983b, p. 38):^{60, 61}

movitz and Paul A. David (1973) applies to many estimates and aims to show that technological change is embodied in the capital series in addition to its presence in the residual. This criticism may also be relevant, in principle, to the Soviet Union, except that the declining rates of growth do not allow too much capital using technical change *along with* a 2 percent growth of productivity. The relatively low R and D content of investment may limit the extent of capital using technical change. See, for example Kontorovich (1985a), the discussion in Section VI, and also below.

⁵⁹ There have also been extensive arguments on the types of data used, the modes of aggregation, and the plausibility of the results. One example is that it follows from Weitzman's CES estimates that the capital share in Soviet industry reached 80 percent in 1950 and declined to 27 percent by 1978 (Weitzman 1983, p. 187), or that the return to capital reached levels of 38-199 percent in 1950, but declined to 6 percent already in 1969 (Bergson 1979, pp. 117-30). It is reasonable that the rate of return of capital should fall under the circumstances, but not as sharply, and not to such an extremely low level. Surveys of this literature are presented by Bergson (1979) and Brada (1985). Challenges to Weitzman's 1972 paper were offered by Earl R. Brubaker (1972) and T. Krishna Kumar and Ephraim Asher (1974).

⁶⁰ While Weitzman could not justify a breakdown of the period into significant subperiods, Norman E. Cameron (1981) and Gomulka (1977) did find significant divisions, but in both cases the trend in productivity was not declining (Gomulka) or it was even rising (Cameron). Other similar results for the 1950s and 1960s were obtained by Rosefelde and Lovell (1977), Desai (1976). None of these estimates include data for the early 1980s, when growth rates were still lower.

⁶¹ Much of the evidence advanced by Wiles, Nove, and Hanson in support of their argument about the

	$r = 0.12$		$r = 0.06$	
	$ES = 1.0$	$ES = 0.5$	$ES = 1.0$	$ES = 0.5$
1950-60	3.6	1.4	4.5	2.4
1960-70	1.8	1.1	2.6	2.0
1970-75	0.3	0.5	0.9	1.1

In both CD and CES estimates reported above, technological change is presented as neutral and/or disembodied. Some of the literature, however, assumes embodiment of technological change in capital (Gomulka and Sylwestrowicz 1976; Brada 1985, pp. 120-22, 126-27).⁶² Two outcomes emerge: First, with embodiment more of the decline in the rates of growth is charged against the decline in the rate of growth of capital and less to systemic problems of R and D or of efficiency. Second, if embodiment is important the intended reduction in the future rate of capital growth may hamper rather than improve Soviet growth prospects (Brada 1985, p. 127). As to the interpretation of past performance, if embodiment were a dominant factor in Soviet growth then, with normal R and D performance and given the large investments, one would expect a much larger contribution of technology to growth in conventional growth-accounting calculations that neglect embodiment. That this did not occur is additional evidence of poor R and D performance in the past. While embodiment is clearly part of reality, what the Soviets lacked in the past, and what they have to worry about in the future in this

connection, is the embodiment of additional new technology per unit of investment. Merely raising the level of investment will not solve this problem, but raising the weight of new technology in well-planned incremental investment might do so. This is just another part of the cluster of dilemmas facing Soviet planners in the key sphere of investment policy.

VIII. *Evaluation and Conclusion—or, Can the Trend Be Reversed?*

The evaluation of the Soviet growth record and strategy in this section concentrates on the question of future prospects. Under what conditions might the present trend of low and declining growth rates be reversed? In a broader view, can sustained growth be assured under the present system? If not, what changes are needed in the system and what strategy will make it feasible?

A comprehensive attempt to project the future is given by the Sovmod econometric model (Bond 1983). The projections for 1980-2000 range between 3.3 and 2.3 percent of annual growth of GNP, the baseline projection is 3.1 percent, and the main differences between the various estimates are assumptions about productivity growth. Under the baseline assumptions, total factor productivity is estimated to grow 1.1 percent annually while under less favorable conditions it would grow 0.33 percent (Bond and Levine 1983). In conventional calculations, both rates are above the average record for the past 15 years, when total factor productivity was negative (see Table 1).

This means that even the more pessimistic Sovmod estimates must, in effect, assume some future improvement in the system's performance. As things stand now, there seems to be little chance of exogenous factors contributing to such improvement. The factors exhausting further extensive growth are all there:

existence of hidden inflation in the capital series (Section III) can be added here as further support for the low and declining efficiency of capital formation. The rise in the costs of capital formation due to such inefficiencies contributes to a rise in the price of capital relative to the general price level; and this increase in the relative price of capital should be added to the proper measure of capital inputs because it reflects the heavier burden of capital cost on the economy (Hildebrandt 1985b).

⁶² On embodiment in modern economic growth see Maddison 1982, pp. 21-25.

Bottlenecks are cumulating and payments for past haste are due. In addition, the favorable external trade conditions of the 1970s have turned unfavorable with the sharp decline in energy and gold prices (Hewett 1985; Hewett et al. 1986; Hanson 1985). The possibility of better weather conditions over the next five years is sometimes mentioned, but there is no talk of a future favorable trend.

According to Sovmod, a shift of resources away from defense, from a baseline growth rate of 4.5 percent per year to zero growth, will produce only a 0.12 percentage point increment in overall growth, to a growth rate of 3.27 percent (Bond 1983, pp. 18-19). As pointed out above, this may be an underestimate, and it may be assumed that at least under reduced defense spending a productivity rise of 1 percent may be more likely. But recent Soviet experience with low growth rates of defense is not very promising. All these should also be weighted against the prospects of long-term cuts in defense. Other possible shifts in resource allocation are treated later.

While some studies do not rule out the possibility of a continuous decline in growth down to 2 percent per year or less, with almost no productivity growth, most seem to believe that future growth can be somewhat higher, around the baseline projection of 3 percent. It is held that such a rate would allow the Soviet Union to "muddle through" just above the critical political and consumption incentive thresholds, and it would even qualify as acceptable sustained growth for a relatively mature economy such as that of the Soviet Union (Berliner 1983a, pp. 42-44; Hunter 1979; Schroeder 1983; Seweryn Bialer 1983). Berliner, for example, foresees the Soviet Union permanently lagging behind the world leaders in technology, a position that, while it has its disadvantages, also has some benefits and may in any case be "appealing

to R & D people operating in a risk-averse bureaucratic structure" (Berliner 1983a).

In terms of the distinction between a technological leader and a follower, Berliner seems to advocate a follower position. It may be true that the Soviet Union has been striving to reach the technological frontiers, but as we have seen, it is finding it very difficult to be an efficient follower.

"Muddling through" may be attained with the help of what the literature calls "moderate" (Colton 1986, Ch. 4) or "liberal" reform (Berliner 1983a, 1983b), as distinct from no reform or minor changes on the one hand, or radical systemic change on the other. But even if muddling through with some reforms is feasible, it is much less than what the present Soviet leaders consider acceptable. They have gone on record demanding significantly higher growth rates. Gorbachev has publicly insisted on at least 4 percent growth instead of the existing 3 percent, and the new plans unveiled late in 1985 call for GNP increases of 4-5 percent and more in 1986-2000 (Hanson 1985; Hewett 1985; Keith Bush 1986). While such goals are more modest than earlier unrealized plans, and catching up with the West is not mentioned as a major goal, it must be considered that all increments above 2-2.5 percent growth must come from rising efficiency. Given the perceived internal and external needs and aspirations, the Soviet leaders cannot accept the "slow-growing mature economy" argument even if growth rates in many industrial countries have recently declined. This is utterly unacceptable at a GNP per capita level of just one-half of that of the USA. Nor can one accept for the long run a 2-2.5 extensive growth rate without productivity growth as "sustained" in the real, Kuznetsian meaning.

It has been clear for some time that without some fundamental changes the

Soviet system cannot resume more dynamic growth. Theoretical analysis of possible reforms was a permanent element of economic analysis in the West all along. Over the last five years this discussion was joined by much more active reform efforts by Andropov and lately Gorbachev. The discussion that follows on changes that may reverse the trend combines some of the abstract discussion with actual measures that are being taken or that are in a planning stage.

Before discussing the main possible directions of reform, three lessons of past reforms should be mentioned. First, the growth record of the past generation was accompanied by a permanent stream of reforms, some of which were considered quite radical in their day. It is difficult to estimate their net impact, but they were not enough to stop the declining trend of growth (Berliner 1983a; Schroeder 1979, 1982; Colton 1986, Chs. 1-2). Second, the partial or marginal reforms often had side effects that offset at least some of the benefits. A shift in the incentive structure in one direction may harm other goals and, in addition, may cause superfluous activity in the direction of the new incentives. Moreover, most attempts at partial reform did not live up to expectations because they conflicted with the unaltered principles of the system in other sectors or activities. An exaggerated metaphor for partial reform is a gradual shift of traffic from one side of the road to the other, a bit at a time.

Finally, reforms suffer from the haste factor: The leadership is too impatient and is reluctant to pay the necessary short-term introduction costs for long-term benefits. As rates of growth decline and pressures to perform routine tasks grow, this reluctance becomes even more entrenched. The outcome is that the more a reform is needed, the more difficult it becomes to implement. This may eventually lead to a crisis where

drastic reform becomes indispensable.

The possible economic reforms designed to encourage faster growth, discussed in the literature, range, to use Berliner's and Colton's terms, from reactionary reform, through conservative-marginal, to moderate or "liberal" and to a radical far-reaching reform (Berliner 1983b; Colton 1986, Ch. 4). The reactionary model calls for tightening central control, improving the system of central planning, and the reinstitution of various disciplinary and coercive measures as the major means to raise efficiency. More resources can thereby be devoted to investment (defense) and to growth. A comprehensive application of such reforms is ruled out by most observers except under acute conditions of international crisis. Nor do specialists believe in their effectiveness at this stage; however, partial implementation of stronger disciplinary measures, work discipline, more responsibility by administrators, and antialcohol campaigns are part of the changes introduced by Andropov and reemphasized by Gorbachev. They serve as part of the proposed reform and as stopgap changes while other reforms are being contemplated.

At the other end of the range is a "radical" reform whose essence is the conversion of central planning into a system of market socialism in which central planning would be phased out in favor of decentralization and market mechanisms, possibly like the "new management mechanism" of Hungary since 1968 (Kornai 1986). Such a change involves, of course, a shift in resource allocation toward higher rates of growth of consumption and more slack in the economy, as well as major ideological and power-structure shifts. In a way, the prospects of such a radical change are of minor interest here because when implemented they will draw the Soviet system much closer to the present-day mixed econo-

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mies; the prospects for sustained growth of a Soviet-type socialist system from the present stage is thus left untested. So far, Gorbachev strongly rejected the possibility of introducing market socialism of the Yugoslav or Chinese style (Bialer and Joan Afferica 1986, pp. 608-13).

The middle ground of the reform range is occupied by the "moderate" reform. Under such reform the basic authoritarian regime and central planning system are assumed to persist, but a number of significant changes in them are contemplated and the distance traveled in each direction may vary. Many of the steps listed below under "moderate" reform are in fact included in what is emerging now in the package of reforms initiated by Gorbachev.

The "Gorbachev reforms" have been formulated as a complete strategy only very recently, at the meeting of the plenum of the Communist Party last June (Gorbachev's speech, and the main document approved, "Basic Provisions for Radical Restructuring of Economic Management," *Pravda*, June 26 pp. 1-5, and June 27, pp. 2-3, respectively). Only a small part of the reform provisions have been put into effect so far, and most of it awaits detailed formulation and implementation. The main effort of the reform is in "restructuring" the economic mechanism so as to achieve, in Gorbachev's words, "the union of centralism and independence of economic organization" (quoted by Berliner 1986 p. 8). It is an attempt to create the entrepreneurship, dynamism, creativity, and flexibility of the market economy in a more decentralized, but still centrally directed environment. This effort includes radical streamlining of the top administrative and planning bodies, and relieving them from much of the burden of the short-term operational direction of enterprises. A considerable part of the supply of materials and goods will be turned to wholesale

trade network where voluntary deals will be struck. Following a major price reform, many prices will be determined by the contracting parties. Much of the previously central financial allocation and control system will be turned to newly established banks that will offer regular credits. Enterprises, with much more freedom of action over plans, over the use of funds, for investments, wages bonuses, over sources of supply and sales, and even prices, will be run according to the principle of "self-financing" where all costs, including taxes will come out of earned revenues; thus profits and sales will be the main success criteria and the source of remuneration. Losing enterprises will eventually be forced to close and the workers will be transferred. Liberalization is being extended also to international trade, where some freedom of action has been granted to individual enterprises and ministries, and joint ventures with Western companies are permitted. The exact division of power between the central administration and market-like mechanisms will determine how radical the reform will be in the core of the economy. With limited free action the system will not be very different from the present one, but with significant reduction in the role of administrative measures it could border on the radical. (See discussion on this issue in Kornai 1986, pp. 1699-1700.)

The second direction of the proposed reform is in enlarging the role and scope of the legal private and cooperative sector, where real markets and market prices and motivations prevail. The Soviet system has probably been the most extreme among the socialist countries in limiting private economic activity all along. In addition to legal private agricultural plots and more or less free farmers' markets for their produce, very limited urban private activity was allowed. The proposed reform enlarges the scope of

private food production and of the production and provision of many services and some products—by private people or cooperatives (as approved by the new law of individual activity that went into effect in May 1987) and by allowing some private-market type activities in collective farms and public sector enterprises, like permission to sell above-quota or above-contract production on the free market or to contract out to private people or cooperatives segments of production (*kolkhozi*, running a computer system for a factory, or developing and introducing an innovation for it). Finally, privatization could mean more liberal policies with respect to the import of technology, even to the point of allowing direct investment of foreign capital in some joint ventures (as under another of the new reform laws).

The increased role of the private sector under such reforms is designed to raise efficiency in spheres where central planning is especially weak, to reduce the burden of central planning, and probably most important, to increase the supply of consumer goods and services in key sectors, thereby raising the level of work motivation of the population. If the supply of privately produced business services to the public sector is also allowed, it may help ease key bottlenecks and make supply response more flexible. Finally, privatization of service activities may raise the share of services in the national product and move the industrial structure of the Soviet economy closer to a "normal" pattern of growth, in which rapid growth of the share of services is a main feature.

The third direction of the reform is the "democratization" of the cultural, social, and political spheres to which we will return below.

A key question relates to the expected effect of reform on Soviet R and D. Final judgment must be left to the future, but

whatever the possible effects, some observers believe that present and anticipated technological frontiers impose even tougher obstacles on the Soviet system than earlier ones did. The main thrust of the Soviet industrialization drive took place at a time when the dominant technological advance was concentrated in heavy industry and machinery, energy, and raw materials. In a way, this suited the goals and structure of the Soviet system. But the technological frontier has shifted to electronics, computers, and communications—toward an "information-intensive economy" (Heymann 1985, p. A-1). There are any number of reasons to assume that the Soviet system is less suited for this revolution. Among other problems, Heymann suggests the following:

Soviet society—as is now beginning to be recognized by the new Gorbachev leadership—is handicapped by a socio-political organization ill suited to the adoption and assimilation of an information-intensive culture: its highly centralized approach to management and decision making; its dearth of reliable data bases and the wall of secrecy with which it surrounds them; the poor quality and availability of its telecommunications links; its discouragement of entrepreneurship and risk taking (uncoordinated small-team, competitive ventures do not exist); its tradition of ignoring the needs and wishes of customers and users; and its abhorrence of the wide-open, chaotic marketplace, where a staggering variety of profit-motivated buyers and sellers contend—these and other features hamper and constrain the society's ability to adjust to and benefit from the information revolution. (Heymann 1985, pp. A-1, A-2)

Three specific problems of introducing the information revolution into Soviet society must be emphasized. First, the process of innovation is hampered by the fact that the use of the new developments must be diffused across the entire economy and not concentrated in a well-defined branch. Second, its main uses in production are antagonistic to long-established traditions of management and con-

trol. Finally, possibly most important, the benefits of the information revolution in a society and culture that is based on monopolization of information, on secrecy, and on the denial of basic freedoms are limited. A society that severely limits the use of photocopying machines and mass communication systems has little taste for the information revolution (Colton 1986, p. 170; on the general theme see also Graham 1984, pp. 129-32; Richard W. Judy 1986).

Gorbachev's "openness" (*glasnost*) reform of partly lifting the veil of secrecy on social and economic information, of calling for open criticism, of more freedom of expression in the arts and culture, and even some democratization of political structures and processes, are motivated by more than one reason—among others, by a desire to raise the level of efficiency of the economic mechanism and to contribute to the "human factor," the key element in reconstructing the economy and society. These can be seen as responses to the problems mentioned above. Time will show how much openness will ultimately be tolerated and how far it will go to meet these problems.

It is difficult to evaluate theoretically how extensive the changes must be to generate the needed turnabout in growth rates. It is no less difficult and much too early to say whether the present reforms contain a critical mass of the ingredients of autonomy, flexibility, incentives, motivation, and freedom needed for enhanced efficiency and more dynamic technological advance. What we can state is that these reforms, as described above, and the recent patterns observed so far in the Soviet Union appear to be less radical in most respects than their Hungarian, Yugoslav, or Chinese counterparts.

Second, it is also difficult to determine in advance whether the changes that may

bring the Soviet economy back to more rapid growth will or will not move the system away from its "socialist" character. Can they be effective without giving up public ownership of most means of production? Or without opening up income and wealth differentials larger than are ideologically acceptable? Or without giving up too much of the central political authority.

A third question with an uncertain answer is whether the minimum reform needed for economic recovery can be pushed through the Soviet political establishment and social structure. There is evidence and open discussion of internal opposition to reforms on academic, ideological, political, and self-interest grounds (Hanson 1985; Tat'yana Zaslavskaya 1984; Colton 1986, pp. 166-76). Zaslavskaya's 1983 report, secret at the time, is a bold description by an insider of the extent of expected opposition by vested-interest groups that stand to lose power and income. Whether or not a "moderate" reform is strong enough to effect the necessary change, it is certainly considered quite radical by many Soviet and non-Soviet observers (Hanson 1985, p. 307).

In addition to reforms in the economic mechanisms and institutions, economic reforms also include changes in resource allocation. Three such general changes seem to be in prospect, also part of a scheme of moderate reform. First, moderate reform calls for a stronger reliance on material standard-of-living incentives. This translates into more resources earmarked for consumption, including services. Second are changes in the sphere of investment, which are engulfed by many difficulties. Up against a severe resources constraint, one has to choose a proper volume of investment, one that will cover the needs of hitherto neglected infrastructure, depleted natural re-

sources, embodied technology in machine building and replacing antiquated equipment (antiquated even according to Soviet norms), while attending to the mounting stock of unfinished projects and over-long lead times. One manifestation of these hard choices is the zig-zag pattern of Soviet investment policies since the late 1970s and early 1980s. In this period we have witnessed, first, attempts to lower the overall growth rate of investment and to divert it from machine and metal production toward agriculture and energy. These attempts had to be abandoned and reversed during the early 1980s. Then in the present (12th) FYP, we find on the one side a modest growth of overall planned investment for 1986-90, but on the other an exceptionally high rate set for the first year (1986), with renewed reemphasis on investment in the machine-building sector (Schroeder 1985; Hewett 1985; Hanson 1985; Hewett et al. 1986; Bergson 1986; Colton 1986, Ch. 4). Time will tell whether these efforts prove successful in raising the marginal productivity of capital.

Third is an effort to reduce, if possible, allocations to defense. The feasibility of such a move depends significantly on the development of a favorable international environment, especially in East-West relations. Arms reduction, lower pressure on military R and D, more opportunities for Western credits and technology, all are favorable to the internal efforts. The Soviet leadership should definitely be interested in promoting such an environment.

Internal policy dilemmas, external uncertainties, including those related to the future terms of trade, and uncertainties connected with the nature and outcome of reforms, all found expression in both the many revisions of the current, 12th FYP, and in the many apparent inconsistencies remaining in it. These inconsis-

tencies raise some doubts about the feasibility of achieving even the modest targets of consumption (Bush 1986).

Oscar Lange, in his treatise on socialism (Benjamin Lippincott 1938), concluded that one of the system's major potential economic advantages is in the field of technological innovation. He considered the ability of one center to sponsor, direct, and then diffuse new technologies to be the answer to the failure of the market economy to yield a constant stream of innovations. As it turned out, Lange was wrong: the flexibility of the market economies, aided by a mixed strategy including some degree of government regulation and intervention proved able to generate continued innovation. On the other hand, technological change only by command proved much less successful.

George Orwell and others viewed the development of modern communications and information technologies as the ultimate weapon of control, brainwashing, and repression at the hands of authoritarian regimes. They may be right, but these inventions also carry a great economic potential for a free society that can put them to use in a different way, on a much wider scale, for far greater social benefit.

In his five-and-a-half-hour report to the 27th Congress of the Soviet Communist party (and in many speeches before and since), Gorbachev (1986) acknowledged the problem of decelerating growth rates, blamed it among other things on the failure to move from extensive to intensive methods of production, criticized most past reforms as mere rhetoric, and pledged to reverse the trend by introducing the scientific and technological revolution and carrying out a "truly revolutionary change" (Gorbachev 1986, pp. 29-33)—a total "economic and

social reconstruction" of Soviet society.⁶³ There is some debate among experts as to whether Gorbachev has the right picture in view, the correct prescription for redirecting Soviet society and its economy toward sustained economic growth, and the energy and ability to push it through. For the time being the skeptics dominate, and their reasons are strong (see Hewett 1986; Schroeder 1986; Jerry F. Hough 1986; Hanson 1986); but we all have to bear in mind that it is rare for analysts to foresee radical changes or sudden shifts in long-established trends. Only time will tell whether the present Soviet leadership possess the attributes necessary to effect such a sweeping turn.

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- ⁶³"Perestroika," ("reconstruction") together with "glasnost" have become the two main catchwords symbolizing Gorbachev's reform drive. Gorbachev's speech last June to the plenum of the Central Committee of the Communist party, repeated similar themes in even stronger language (*Pravda*, 26 June 1987, pp. 1-5).
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Historical Perspectives and the Interpretation of Unemployment*

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IN THE LAST DECADE, the levels of unemployment in industrialized countries have risen dramatically. Rates now are typically two, and in some cases, three and four times those prevailing in the 1950s and 1960s. The fact that these new higher levels are widely tolerated suggests that our thinking about the meaning and significance of unemployment has changed enormously over the period. Such a change is certainly present in the thinking among professional economists. In the 1960s the standard view was that the unemployed represented unutilized resources; their existence in an economy where the vast majority of people had unsatisfied wants was seen as a major social paradox and the most important unsolved intellectual puzzle of the capitalist economic system. This fed the rationale for Keynesian countercyclical fiscal policy and government deficit spending: The government could reasonably print money in order to hire the unemployed because the resources absorbed in the process were essentially "free goods."

Today, a good number of professional

economists, certainly in the United States but to a lesser extent throughout the world, have come to view measured unemployment in industrial economies as an *artifact* in at least three senses. It is a statistical artifact of a measurement process that classifies as unemployed people who are not really available for work. It is an institutional artifact of a system of social insurance and public welfare that encourages an extension of the process of job search. And it is an artifact of the language that uses a term which in everyday parlance means forced idleness for activities that have important productive functions akin to the functions of inventories, information processing, and investment associated with the utilization of capital goods. These interpretations to be sure hardly constitute a consensus about the meaning of unemployment. But they are no more diverse than the range of views that underlay the older orthodoxy. And for policy makers and economic researchers, they carry a single message: There are many more serious problems toward which to direct attention.

These new views about unemployment were developed out of a set of ideas originally associated with the Chicago School of economics, where the emphasis—at once positive and normative—was placed on the competitive market as the gover-

* A Review of Alexander Keyssar, *Out of Work: The First Century of Unemployment in Massachusetts*. Cambridge: Cambridge University Press, 1986 and Robert Salais, Nicolas Baverez, and Bénédicte Reynaud, *L'invention du chômage: Histoire et transformations d'une catégorie en France des années 1890 aux années 1980*. Paris: Presses Universitaires de France, 1986.

nor of labor market activity. The mainstream of the economics profession continued for a long time to work from models that presumed the older view, and in the process failed to provide an effective counter to either the empirical evidence or the theoretical propositions that made the new views seem reasonable and increasingly coherent. Analysts who on other issues were quick to criticize the prevailing orthodoxy from an institutional, historical, or Marxist perspective followed the main body of the profession in this regard and never developed an independent position. As the old orthodoxy has collapsed therefore, there has been no coherent counterweight to the essential complacency of the new position.

These two books, which appear more or less coincidentally, constitute the first really original effort of scholars working from a critical perspective to confront and come to terms with the new orthodoxy. They start from the presumption that the economy must be understood as the product of a continuing historical evolution and as embedded in social processes. In this they stand in contrast to mainstream economics, and particularly the theoretical ideas out of which the new understanding of unemployment is built, in the sense that the analytical approach of the latter is *ahistorical* and makes a radical separation between the economy and society. In addition, both books share the preoccupation, prominent today in anthropology and sociology and common to much of contemporary Marxist thought, with the working out of the precise relationship between the realm of ideas and the productive structure itself, a relationship that orthodox Marxists took for granted and in which mainstream economics is basically not interested at all. Despite these common intellectual roots, however, the two books suggest almost diametrically opposite conclusions

about the meaning of unemployment in modern times and the validity of the newly dominant interpretations.

I. *Salais et al.*, *L'invention du chômage*

Salais and his colleagues are directly concerned with the emergence of the new high unemployment levels in France in the 1970s. They approach this problem through a complex and sophisticated blend of quantitative statistical and qualitative historical analysis.

The statistical analysis focuses on the pattern of variation in unemployment rates across French departments, basic geographic units of the French administration roughly comparable to U.S. states. They look at this pattern in four separate years (1896, 1936, 1970, and 1980) and are thus able to see how it has changed over time. For each department, they collected a large and disparate group of variables. These include the demographic composition of the population and the distribution of the labor force between industry and agriculture and by urban size and size of establishment.

A standard approach would be to use these data to estimate demand and supply curves for labor in each of the periods. The variables, however, are highly intercorrelated, and it would be difficult to identify the two curves. Salais et al. take the position that a set of more fundamental forces are operating simultaneously on both sides of the labor market, and it is these forces, not supply and demand, that are of analytical interest. To uncover these forces, they turn to principal component analysis. This technique constructs out of a series of highly intercorrelated variables a new and smaller set of measures: the principal components. The principal components are linear combinations of the original variables and have the property of being those combinations that account for most of the variation in the original set. The principal

components are also orthogonal to (that is, uncorrelated with) each other. They can thus be interpreted as "purer" variables, measures of the underlying processes at work. The dispersion of the effects of these "underlying processes" over the original set of variables is interpreted as accounting for the intercorrelation that principal components analysis as a statistical techniques is designed to eliminate.

This approach is widely used in psychology and sociology but economists are uncomfortable with it, especially where the original set of variables have direct interpretations in terms of conventional theory and the principal components do not. Salais et al. circumvent this problem by building the interpretation of the principal components out of their qualitative analysis. Here their evidence is drawn from what might be termed *case studies* of the employment relationship and the way in which the evaluation of that relationship is connected to the changing social structures within the enterprise, the profession, and the residential community. Interestingly, much of this evidence was generated as part of the debate among statisticians going back to the nineteenth century about the meaning of unemployment and how it should be measured.

The story which emerges in this process is that the modern concept of unemployment derives from one particular employment relationship, that of the large, permanent manufacturing establishment. Employment in such institutions involves a radical separation in time and in space from family and leisure time activity and was (and is) relatively permanent. When employment ties of this kind are severed, there is an empty space in the worker's life which is sharply defined and that space is what is meant by unemployment. In early twentieth-century France, there were, however, a number

of other types of work structures in which the terms *employment* and *unemployment* had rather different connotations. In agriculture and in a variety of different family enterprises in industry and commerce, market and household activities were so intermingled that the line between them was difficult to draw and adjustments to variations in economic conditions were made through changes in the distribution of time between various tasks. These changes were not registered by measures of unemployment at all. In rural areas and small towns, workers frequently moved back and forth between their own farms and industrial employment in small enterprises with an ease and frequency that also escaped conventional measures of unemployment. When there was not enough work to keep everybody busy, workers were still supported by other family members either on the farm or in the workshop.

In large urban areas where social ties were weak, forms of public assistance gradually developed to sustain workers from such small enterprises that occasionally fell through the net of family relations in which work relationships were typically embedded. Such workers were then formally classified as unemployed. But in this situation, the category *unemployment* was ambiguous because such workers were not conceptually distinct from similar people who, even in urban areas, and to a much larger extent in small towns and villages, were absorbed into the extended family, sharing family resources and assuming domestic tasks.

Still another type of employment typified the crafts. Craft workers were attached to their professions rather than to particular employers and often moved regularly from one employment establishment to another. The level of employment within a craft, moreover, often had a marked seasonal pattern involving prolonged periods when work was scarce or

nonexistent, but workers anticipated these off-periods and tended to accommodate them through the social and cultural institutions associated with craft work. Typically, craftsmen were organized into associations with mutual insurance funds to sustain their members during the slack season. Early statisticians were confused and divided as to whether craftsmen out of work during the slack season and drawing upon funds of this kind should be counted as unemployed.

The turning point in the emergence of unemployment as we know it today, Salais and his colleagues argue, was the Great Depression of the 1930s. The modern category of unemployment emerged out of two distinct effects of the economic collapse. First, very large numbers of workers were displaced from the large industrial establishments in terms of which *unemployment* had its clearest meaning. Second, under the pressure of the depression, the variety of social networks, mutual insurance funds, and local public support systems associated with other employment relationships were broken, or so strained that the state was forced to intervene. But while the two effects were conceptually distinct and both proved to be temporary, a single permanent institution was created to deal with them: a general system of unemployment insurance. And the model of the employment relationship upon which that system was built was that of the employment relationship in large industrial enterprises. In the subsequent period of postwar prosperity, workers and employers were induced by the existence of this system increasingly to structure their employment behavior upon the large enterprise model.

These institutional changes appear clearly through the statistical analysis: The principal components that reflect the employment institutions are important in accounting for the interdepartmental var-

iation in unemployment rates in the pre-World War II period, but their importance drops substantially in the postwar years of 1970 and 1980.

There is a certain resemblance between this story and the argument that workers have been induced to behave as unemployed by the fact that they thereby become eligible for unemployment insurance payments. But the argument here is more sophisticated and ultimately very different. First, there is a set of institutions in the economy in terms of which the initial concept of unemployment and the institutional structures which derive from that concept are defined: Unemployment has a clear and unambiguous meaning in terms of these institutions. Second, the category of unemployment is enlarged, not by inducing individuals to alter their behavior, but by changing other institutions so that they come increasingly to resemble the paradigmatic structure in terms of which unemployment is defined.

Finally—and this is perhaps the most intriguing part of the Salais et al. argument—the process of imposing one institutional paradigm upon an initially heterogeneous structure is not something that is confined to, or can be understood in terms of, unemployment alone. It extends to the whole social and economic policy of the state. A good part of the book is thus devoted to showing how, in the period extending from the Popular Front through the Liberation, the French came to see the large industrial enterprise as the critical economic institution of the modern industrial state and how the state pushed—not only in labor policies but through financial subsidies, the tax system, and indeed through virtually every instrument of statecraft—to force smaller productive institutions to merge in order to create the paradigmatic structures of the modern French economy. Indeed, they argue that the spread

of Keynesian economics, through which unemployment came to be recognized and understood as an analytical concept, has to be understood as part of the process through which the state imposed the structures of large enterprises upon the system as a whole. Here again, it is easy to confuse this argument with that of American economists who see unemployment as "artificial." For proponents of that view, the institutional structure of the French economy will be seen as the product of artificial state intervention. But Salais and his colleagues see state action in this respect as the product of an intellectual process. And indeed, the ideas upon which it was based were accepted by politicians and policymakers distributed across the political spectrum. Their success in pursuing the policy of institutional transformation was undoubtedly due to the fact that the ideas were ultimately accepted by the custodians of the institutions that had to be transformed. In this sense, state action is an expression of underlying social and historical processes, not something separate and exterior to them. State action cannot be artificial in this view of the world in the sense that it can in orthodox theory where the economy on the one hand and the society on the other are modeled as so separate that entrance of the latter in the domain of the former can be termed unnatural.

What conclusions does this argument then suggest about contemporary unemployment? The unemployment of the last decade, like that of the Great Depression, is the product of the unanticipated collapse of a large portion of the older institutional structure. The huge layoffs in heavy manufacturing industries like steel, automobiles, and shipbuilding, which were once thought symbolic of the modern age, are representative of this process. Because the collapse is unanticipated, existing institutions cannot deal

with the problem. Salais and his colleagues take it for granted that the society has an obligation to help those who are suffering in the process. The danger is that in the attempt to do this, we will inadvertently create the structures that determine the emergent economic order. It is the character of that order, and not unemployment per se, that is the critical issue, and it is toward that which the book ultimately directs our attention.

II. *Alexander Keyssar, Out of Work*

Alexander Keyssar is also concerned with the changing meaning of the term *unemployment*. His focus is on nineteenth-century Massachusetts. In the early nineteenth century, unemployment as we know it today does not seem to have existed as a category, at least in the modern sense of the term. The word was widely used, but it referred mainly to "those who were simply 'not employed,' who were idle or not working" (p. 3). It thus included small children, who were never engaged in productive labor and grown men who had taken the day off to go fishing. By the end of the century, however, it had come to be understood exclusively in the modern sense of "involuntary idleness," wanting a job but being unable to find one. The central question of the book is thus: What happened in the course of the nineteenth century to produce this linguistic transformation?

Keyssar is a social historian, not an economist, and his answer to the question is based largely upon traditional historical sources: documentary evidence, gathered from the newspapers, government reports, trade union pamphlets, civic organizations, and the casework of charitable organizations and social workers supplemented by case studies by other historians of particular industries,

industrial communities, and businesses, which, for Massachusetts, are numerous. He presents statistical material when it becomes available. For the latter years, it is fairly extensive: the federal census of 1890, 1900, and 1910; Massachusetts census in 1885 and 1895; and a special survey of the Massachusetts Bureau of Statistics of Labor of unemployment among trade unionists, quarterly from 1908 through 1923. There are serious problems of comparability among these different surveys. Keyssar is well aware of these problems, but he is extremely apologetic about burdening the reader with discussion of them. They are confined to footnotes and appendices and even there, from an economist's point of view, are teasingly abbreviated. But because the statistics are used largely to illustrate or amplify the documentary evidence, the data are adequate to bear the weight of the argument they are asked to carry.

The explanation for the emergence of unemployment which Keyssar abstracts from his material is similar to that of Salais and his colleagues, but also different. The similarities lie in the social structures in which work is embedded and which act to cushion the impact of fluctuations in economic activity. At the beginning of the nineteenth century, industrial work in Massachusetts, as in much of early twentieth-century France, was combined in close geographic and institutional proximity to domestic work and agriculture. It tended to be done in small household-based workshops or put out to farmers. Thus, when industrial activity was slack, industrial workers simply shifted to farm tasks or household maintenance; when demand picked up, they shifted back to industrial activity. In the course of the century, however, work moved off the farms and out of the household into factories that were separated socially, geographically, and institution-

ally. When factory work fell off, workers could not therefore easily shift. They were without a job and finding something else to do involved a distinct effort, a recognizable period of time and social space. That space came to be referred to as *unemployment*. Keyssar does not make the distinctions between large and small enterprises or more or less urbanized environments that loom so large in Salais et al., but otherwise the notions of social space and its emergence through structural change in the two books are coincident. Keyssar's book is different from that of Salais et al. in the sense that Keyssar does not really explain why or how this structural change occurred. Instead he concentrates on documenting the change, the amount of unemployment (in the modern sense of the term) to which it gave rise, and the impact of the unemployment on workers' lives. As a result, he leaves the impression that the changes are the natural and inevitable product of industrial, or as Keyssar himself would probably term it, capitalist development. There is no choice or act of will. The result is an extremely effective reply to the new economic orthodoxy. Keyssar shows us what the world looks like in which unemployment means leisure activity. He documents the disappearance of that world and makes clear that it is not the world we live in today. He also shows that contemporary institutional structures such as unemployment insurance and layoff by seniority, which analysts now tend to view as a "cause" of unemployment, actually emerged in response to unemployment, and asserts that while they may, in fact, have changed its distribution, they have done little to alter the level.¹

The book also addresses a number of

¹ His quantitative analysis is not enough actually to sustain this last point, but the much more sophisticated statistical work by Christina Romer (1986a, 1986b, 1986c) in the last year makes it plausible.

issues that have emerged as a by-product of the new orthodoxy. For example, Keyssar shows that in the nineteenth century, before there were any of the institutional restraints such as unemployment insurance or recall rights which modern analysts have argued distort decisions, workers tried to shift geographically in response to variations in the distribution of demand, but demand was so erratic even across firms in the same industry that it was impossible for even an extremely mobile labor force to keep up with its variations. But the book leaves us at a complete loss as to what to do about unemployment. Keyssar does not seem to believe that we can go back to the early nineteenth-century economic structures; indeed, he leaves the impression that this would cost us dearly in terms of our standard of living. And, yet, he seems to see little that we might do to reduce unemployment within the existing economic structures and he offers us no vision of an alternative structure toward which we might move in the future. Somewhat paradoxically, therefore, Keyssar leaves us with a certain nostalgia for the position he seems to have destroyed. It, at least, offered the possibility of measures we might take to improve the world.

III

How does one explain the difference between the perspectives of these two books?

To a great extent, that difference reflects the differences in the intellectual traditions out of which they have developed. Salais et al. are the product of contemporary French labor economics and industrial relations, a tradition of thought whose major preoccupation has been the attempt to understand the historical evolution of institutional structures. It has been driven by what is, especially for

France, unusually rich case-study material of actual business practices that scholars have tried to understand by an eclectic theoretical approach, borrowing freely from Marxist and orthodox economic theories as well as American industrial relations, labor market segmentation, and radical economic theory.

Three developments growing out of this tradition seem particularly important for the understanding and interpretation of the Salais book. The first is the work of *Laboratoire d'économie et de sociologie du travail* (LEST) in Aix-en-Provence comparing the organization of industrial work in France and Germany (Marc Maurice et al. 1982, 1986). The LEST studies started with the observation that the distribution of wage and salary income is much wider in France than it is in Germany. They tried unsuccessfully to explain this difference through successively finer disaggregations of the data until ultimately in the early 1970s they were able to reduce the problem to the plant level. They formed 12 pairs of plants, each pair composed of a plant in France matched on the basis of size, product, and production technology with another in Germany. At this level, they were able to trace the difference in the two distributions to a series of lower-level managerial employees that were found in the French plants but not in the German ones. In order to fit these employees into the wage hierarchy, its range was widened. The LEST researchers then conducted further studies designed to explain what these "extra" managerial employees did in France and why. The essential result is that the same work in France is organized completely differently from that in Germany: To simplify, the French make a much more radical separation between the tasks of conceptualization and execution than do the Germans, and French lower-level managerial workers carry a range of design

and planning functions that German rank-and-file workers perform themselves. This difference is in turn related to profound differences in the structure of the educational systems (there is more formal education in France, more on-the-job training in Germany), in industrial relations (adversarial in France, cooperative in Germany), and in the nature of day-to-day social interaction in the two countries (French social relations are structured to avoid personal confrontation). It is reflected not only in differences in the distribution of wage and salary income, but also in the nature of career paths and in the degree of worker autonomy, on the one hand, and responsibility on the other. Indeed, the differences in the two countries extend to so many aspects of economic and social organization that it is impossible to isolate a clear chain of causality.

The LEST studies leave a lot of loose ends, and in themselves have not been fully successful in generating a theoretical explanation for the structures of the two societies. But they have fundamentally changed the type of theoretical explanation of economic and social structures that is acceptable to French scholars. Prior to these studies, most French social scientists (and probably those in the Anglo-Saxon world as well) tended to subscribe to some form of industrial or technological convergence. They believed that competitive pressures would drive all industrial societies sooner or later to adopt the one best set of industrial techniques and that those techniques would determine the key aspects of work organization and related income, education, and industrial relations structures. Given that France and Germany are at more or less equal stages in their industrial development, more or less equally successful given conventional indicators of social welfare and economic performance—and indeed the pairs of

enterprises competed directly in the Common Market—these hypotheses can no longer be sustained. The LEST studies thus open a whole new space for speculation about the origins and impact of the key structures of modern society, and it is within that space that Salais and his colleagues are working.

A second range of studies that feeds directly into the "invention of unemployment" is the on-going research at INSEE, the French national statistics institute, into the history of statistical categories. This research was pioneered by A. Desrosières (1977). Among the most important contributors are F. Eymard-Duvernay (1983, 1984), Eymard-Duvernay et al. (1983), Eymard-Duvernay and L. Thévenot (1979), Thévenot (1984), and Salais himself. All of these scholars worked and studied under Edmond Malinvaud (1974; Carré et al. 1972) but their work has been heavily influenced by the French sociologist Pierre Bourdieu (1977, 1980). Most of this research focuses upon statistical categories that, individually at least, are much less critical to our interpretation of industrial society than unemployment, and the findings are considerably more modest in scope and import than those that Salais and his colleagues reach in their book on unemployment. But together the studies develop the notion that statistical categories ranging from those used by the census to collect data on professional employment to the job evaluation grid in which the French collect wage data, are a social and political creation; they emerge in a definite historical process in response to particular political and economic pressures and once they emerge they affect in important ways the structure of the economic system and its subsequent evolution. Statistical categories are in other words themselves instruments and institutions that are invented and then propagated through "invest-

ments" in the same way that technologies embodied in physical capital are invented and propagated. We cannot say whether we train doctors and nurses separately because they are distinct categories in our occupational statistics or whether doctor and nurse are distinct categories because they are educated and trained through distinct processes and institutions.

Because statistical categories are important, but historically contingent structures, these categories and the processes through which they are generated could explain such critical differences in the nature and direction of the economic system as those that the LEST studies uncovered in France and Germany. American business organizations today will understand this lesson in terms of their attempt to copy what they perceive as the more efficient Japanese organizational forms: The Japanese eschew a whole set of professional categories—ranging from secretaries to accountants, and industrial engineers—that are critical to the way in which Americans do business. But U.S. companies feel unable to abandon these categories: Instead they have been forced to invent functional equivalents to the Japanese organizational forms that retain these categories even as they have sought to imitate Japanese practice (William Ouchi 1981).

The last of the major intellectual currents reflected in *L'invention du chômage* is the "theorie de la regulation" (Michel Aglietta 1976; Robert Boyer 1979, 1986a, 1986b). This theory was developed by a group of economists trained at INSEE in neoclassical economics but with a strong Marxist intellectual background. In many ways, it can be understood as a way of combining a Marxian framework with the basic analytical insights of orthodox economics, although the features of the two schools that the theory tends to highlight are not those

generally attributed to either school in the United States.

From orthodox economics, the Regulation theorists have taken the idea of a coherent, self-regulating economic system. From Marxian economics, they have taken the notion that the economy is embedded in a series of social and institutional structures and that analytical models must explicitly recognize these structures and the political processes through which they are generated and sustained. They have also taken from Marx the idea of a developmental process in which the society passes through a series of distinct economic systems that succeed each other in history. But they have transposed this notion from the metatransition from feudalism through capitalism to socialism, upon which classical Marxism focuses, to a sequence of systems that are encompassed within capitalism itself. One focus of the theory is upon the nature of these systems, each of which it defines in terms of a set of characteristic institutions that together form a self-equilibrating economic system (in the sense that a competitive neoclassical economy is self-equilibrating, although not necessarily of the neoclassical form). These regimes are separated from each other by periods of *crisis*, in which the system loses its self-equilibrating capacity, and in which stability can be restored only by the generation of a new set of social and institutional structures. These crisis periods and the social and institutional regeneration that occurs within them constitute a second focus of the theory. It is in the analysis of these crises that social and political, as opposed to orthodox economic analysis comes into play. Regulation theorists view both the Great Depression and the current period, beginning in the early seventies, as periods of economic crisis. And it is in this sense that Salais et al. argue that unemployment was created in France as

cial construct in the period of the 1930s as part of the process which generated the post-World War II regulatory structure and that that social construct can be altered in the current crisis in order for a new regulatory structure to emerge.

Keyssar is a product of the new labor history, which emanated in England from the work of Edward P. Thompson (1933) and is represented in the United States by David Brody (1980), David Montgomery (1949), Herbert Gutman (1975), and Eugene Genovesi (1969, 1976). Most of these people are Marxists like the French labor economists who have been interested in developing the relationship between the economy and social structure, or what orthodox Marxists would call the *base* and the *superstructure*. They thus reject the traditional view that until the revolutionary period when the capitalist system came to an end, the working class plays an essentially passive role in economic history. The central theme of this research is that workers play an important active part in developing their own culture and that that culture then mediates the impact of the system upon their lives.

The interest of the new labor historians in working-class culture can be likened to the interest of the French labor economists in institutions, but the role that labor historians ascribe to culture never goes nearly so far. The historians preserve the orthodox Marxist determinism deriving from the base to the superstructure: working-class culture may mediate the impact of the economic base upon workers' lives but the culture cannot "reform" those lives, nor can it transform the economic system itself. The work of the historians thus tends to preclude an independent historical thrust for the economic system. In this respect, it is fundamentally at odds with the findings

of the LEST studies, the INSEE studies of the history of statistical categories, and the theory of regulation, all of which render problematic the very base that the labor historians assume.

But it is probably a mistake to try to understand the difference between these two books and their interpretations of unemployment within the terms of Marxist scholarship alone. In many ways, the differences transcend Marxism and distinguish continental and Anglo-Saxon thought in all domains of social science. Keyssar, despite his Marxian orientation, writes from a Lockean tradition in which there is a natural world, separate from human beings and independent of their actions. One can thus distinguish, at least conceptually, between "true" ideas which are associated with that world and "other" ideas which are the product of human efforts to alter that external reality. His argument is distinguished substantively by the fact that he works from a Marxist model of capitalist reality in which "unemployment" is a real category. But it is structurally not so different from the Chicago notion of a "natural" rate of unemployment, something which, as the term implies, is beyond the reach of human action. In the continental tradition of social thought, this notion of an external reality is problematic.

The distinguishing cast of recent Anglo-Saxon thought in this regard is illustrated by the evolving debate about the relative stability of the U.S. economy in the post-World War II period. The old orthodoxy in which the postwar view of unemployment was embedded held that the institutional reforms of the depression and the emergence of Keynesian-based demand management after the war had significantly reduced instability. In the new orthodoxy, these claims are highly suspect. They are nonetheless difficult to evaluate because most postwar statistical series are not comparable to

their prewar counterparts. In particular, postwar series are based upon much more comprehensive surveys. This should reduce random variance, or noise, and that alone could make for the greater stability we observe.

A new page in this debate has been opened recently by Romer (1986a, 1986b, 1986c). Her work is based on the insight that although it is not possible to go back in history and collect prewar statistics to conform to postwar standards, it is possible to edit postwar data so that they are essentially comparable to those of the earlier period. The results of this exercise tend to confirm that a good deal of the observed stability in the postwar period is spurious. These results have been interpreted as supporting the view that the fundamental economic processes were unaffected by the postwar reforms, and thus have greatly intensified the debate about Keynesian countercyclical policy. The renewed debate, however, has focused almost entirely upon the accuracy of Romer's corrections of the postwar series (Stanley Lebergott 1986; David Weir 1986). But these series were introduced to support the more active policies that Keynesian economists sought to pursue and are really part of the same package of institutional reforms as the policies themselves. Romer's work raises therefore, not only a statistical question but also a profound theoretical question as well: How is it possible to change so fundamentally the institutions that serve as the eyes and ears through which we experience economic activity without significantly changing the way in which we behave? Or, to put the matter differently, why are our data-gathering institutions so much more malleable than those that produce and distribute goods and services? Indeed, is it really plausible that we could have succeeded so easily in changing the one after the end of the war and yet fail, despite much more

determined efforts, in changing other institutional structures in the same period? These are the questions the French scholars would naturally ask.

IV

The difference between the Keyssar and Salais interpretations of unemployment can probably not, however, be understood exclusively in terms of the intellectual traditions in which they are working. To some extent, they are examining two different realities. For one thing, the book focus upon different sectors of the economy in different historical periods. The Keyssar study is of the advanced industrial sector of a much larger national economy in a relatively early period of industrial history. Salais and his colleagues examine the whole of an economy whose industrial spurt occurred much later, at a very different moment in the evolution of the world economic system. To evaluate these influences, given the material provided by these two books, almost requires the reader to take a position on the arguments outlined in the previous section.

The orthodox Marxist position is that the inevitable thrust of industrial development is toward productive units which are increasingly large, employing progressively less skilled labor in more and more narrowly defined jobs, performed in factories whose physical and social existence is increasingly remote from other aspects of social life. Under this supposition, the large productive enterprises and urban conglomerates that Salais and company found to be associated with unemployment are the avant garde of industrial development in twentieth-century France. And Massachusetts, as the most industrialized sector of one of the pioneer industrial economies, is likely to have developed these characteristics in the course of the nineteenth century, as

Keyssar's study shows. Indeed, in this view, French postwar policy, in imposing this model on the national economy, was simply serving as the vehicle for the expression of the forces of capitalist economic development. This conception of the nature of industrial development was very widely shared in postwar France—across the political spectrum—and was one of the major factors in state policy.

On the other hand, when these studies are read against the background of contemporary institutional research on unemployment, one arrives at a somewhat different position about the two studies. The LEST study of France and Germany suggests that perhaps France and the United States were developing fundamentally different employment systems that were basically independent of their technological development. The plausibility of this hypothesis is strengthened by the concern in the last several years with labor market flexibility in the U.S. and Western Europe. The research that has responded to that concern suggests that the American employment system is distinguished not only from the French system but also from that of most other industrial economies by the degree to which employers are free to lay off and discharge workers in response to variations in economic conditions (Piore 1986b).

One would be unlikely to arrive at this conclusion from these two books alone, but if one comes to them with such an idea about the difference between American and European institutions already well formulated, the books begin to suggest how that difference emerged. And one sees it in both the large enterprises to which Salais et al. link modern notions of unemployment, and in the smaller ones, to which they see modern unemployment as initially foreign.

The picture that emerges from the comparison of the history of unemploy-

ment in France and the U.S. is thus different from the one that Salais et al. abstract from French history taken in isolation. Even the large enterprises in France, it becomes apparent, operated on a familial model: They tried to reproduce a social structure within the enterprise that was analogous to that of the household, the workshop, or the farm. That structure involved an obligation of permanent, continuing employment. It has been only when companies are unable to fulfill these obligations, as was the case in the Great Depression of the 1930s, that open unemployment appeared. In other periods France, even in areas dominated by large companies, has had virtually no open unemployment at all.

Keyssar identifies a similar development in early nineteenth-century Massachusetts. The most prominent example is well known: the recruitment of young women for textile employment into factories that combined industrial work with educational and cultural activities in a college campus-like environment. These efforts were abandoned, however, in the course of the nineteenth century for a much more casual employment commitment. Moreover, that move toward a casual employment relationship does not appear to have been peculiar to relatively large enterprises. It seems to pervade the whole of the Massachusetts labor market. Perhaps most striking is the fact that the kinds of mutual aid societies among craftsmen that Keyssar describes in Massachusetts were much too weak to provoke the debate so salient among French statisticians about whether or not out-of-work craftsmen should be classified as unemployed. The critical factor in this development of a casual labor market in the story which Keyssar tells was large-scale foreign immigration. The suggestion that immigration is the critical factor in the development of the peculiar

casualness of the U.S. employment relationship fits well with the fact that in the 1920s, after free foreign immigration was curtailed, America's industrial employers began to introduce more permanent employment commitments comparable to those in Europe and Japan. But for the depression of the 1930s, which interrupted these experiments in a brutal and definitive way, they might have evolved into a very different institutional structure.

V

What do these books ultimately suggest for an understanding of unemployment? Either book alone, and certainly the two taken together, should be enough to forestall the emergence of a consensus among economists about the interpretation of unemployment. Keyssar's argument, however, is essentially a reassertion of the standard view dominant in the 1950s and 1960s: Unemployment is real—it is a serious disruption in workers' lives. It is not the result of productive job search or relocation: The location of jobs in nineteenth-century Massachusetts shifts too rapidly for workers to find them. But while workers cannot move fast enough to keep up with the pace of job change, they seem to move too fast to serve as an effective inventory of labor for jobs that have temporarily disappeared. There is in Keyssar, moreover, a strong suggestion—although the evidence is incomplete—that the world has changed little in these respects since the beginning of the twentieth century. This suggestion feeds the growing scepticism about the effectiveness of Keynesian demand management. Without demand management, or the prospect of a Marxian revolution, the differences between older views about unemployment and newer ones lose much of their force. Keyssar's analysis suggests a

good deal of moral indignation, which the position originating in Chicago lacks, but it implies a similar resignation.

Salais and his colleagues suggest a fundamental revision of the traditional interpretation of unemployment, one that recognizes and validates many of the insights of recent scholarship, but that leads to very different conclusions. The French argument rejects the premise of mainstream economics, that economic behavior can be usefully modeled by abstracting from the social context in which it occurs. Instead, the argument implies that human beings always attempt to embed their activities in stable social structures. Governmental activities and institutions must be understood as part of those structures (just as, incidentally, must statistical concepts and measures). When government institutions exist, the relevant social structures will be built around them; when they are not present, alternate structures will be created in their place. It is inconceivable, in this view, that such structures will fail to respond to such a fundamental aspect of the human environment as the discontinuity in economic activity or the instability of work, which is reflected in our measures of unemployment.

All of this makes it very doubtful that, under normal circumstances, unemployment is the catastrophic event that Keyssar pictures it to be. When interruptions in work activity are a frequent occurrence, some kind of social structures must be developed to handle it. When that unemployment exhibits a fairly regular seasonal and/or cyclical pattern, those structures must anticipate these patterns and predicate responses upon their existence. This suggests a distinction between normal periods, when the unemployment experienced is anticipated and the social structures that respond to it are stable, and abnormal periods (or, to use the language of the French *théorie*

de la régulation, "crises"), when the nature and extent of unemployment are unanticipated and the social structures with which people have traditionally accommodated that unemployment break down.

In this perspective, the depression of the 1930s was a critical moment, at least in the U.S. and in France. But it had two separate and distinct effects. First, it was a crisis in the above sense of the term. The existing social structures were unable to accommodate the unemployment of the depression and the government intervened to supplement them. This first effect was probably an inevitable part of the depression experience. But the second effect was not inevitable. The government might have created only temporary structures designed to handle the crisis but destined to disappear with the economic recovery. Some, like the Works Progress Administration in the U.S., were eliminated. But many of the new institutions either became permanent or were replaced by permanent institutions of similar design. As a stable social structure was regenerated in the postwar period, it presumed those new types of governmental institutions and was built around them.

This undoubtedly changed the statistical manifestations of unemployment and the response of the workforce to it. But the nature of this effect is not obvious. For example, government unemployment insurance might prolong the job search and inhibit labor mobility. But if it substitutes for more local systems of support such as the family or craft mutual aid societies, it could just as well increase labor mobility. The unemployed could well have been relieved by the new system from pressure to stay close to family support networks, reject job offers that undermine the family's social status, or remain in the craft from which they draw their aid. Thus, to know what the impact

of the unemployment insurance systems has been, one would have to examine in detail the nature of the social system which it replaced. And to evaluate proposed reforms, now, one would have to anticipate the social support networks that will arise in their absence.

The most important point suggested by the Salais argument, however, is that whatever the relevance of the arguments about unemployment as an artifact, they seem almost completely confined to periods of "normal" unemployment, not periods of "crisis." And the current period appears most appropriately characterized as one of "crisis." It is a crisis in the sense that the extent and magnitude of the unemployment we are experiencing was not anticipated either by the labor market participants or by government policy-makers.

In the United States and Western Europe it is clearly straining systems of social support, both public and private, forcing them toward bankruptcy. This effect is less apparent now than in the 1930s because few of the unemployed have actually been denied some form of social assistance. But unemployment insurance systems in both countries would not have been able to provide this assistance had they not been supplied with general revenue. In France, employers who never laid off were forced to do so. In the U.S., too, employers have laid off managerial workers who had been previously thought to have permanent jobs, and even for blue-collar jobs never considered permanent the magnitude of the layoffs has required the ad hoc renegotiation of collective agreements, in some cases more than once. The issue today is, as it was in the 1930s: What kind of new social systems will we create to replace the structures that are falling apart?

Here a final insight of the French research becomes important: The social

structures that mediate the impact of economic flux and uncertainty upon our lives—and hence determine whether or not these manifest themselves as unemployment—are not freestanding. They are part of much broader constellations of practices, institutions, and relationships. They cannot be understood independently of managerial philosophy and technique, the way in which economic and family relationships are intertwined (or separated), the size and structure of enterprises and the relationship between them, and—following the logic of the LEST comparison of France and Germany—the educational system, industrial relations, and the structure and organization of productive forces themselves. Because these things are bound up together, unemployment cannot be meaningfully evaluated in isolation. Both scholarship and policy must focus instead on these much broader constellations, on the nature of their internal coherence, on their origin, and on the way in which they evolve—or can be made to evolve—in time.

This way of looking at the world, and the research agenda that it implies, is not quite as distant from that of mainstream economics as it sounds. One branch of contemporary theory is increasingly focused upon the phenomenon of long-term contracts that govern economic relationships over a range of contingent events. One could think of such long-term contracts as institutions, and one could understand a "regulatory regime" as an interdependent constellation of such contracts—interdependent in the sense that the validity of the distribution of contingencies assumed by any one such contract depends on the actions mandated by other contracts in the same constellation. A crisis of a regulatory system defined in this way can then be thought of as occasioned by the fact that the parties come to doubt the validity

of the distribution of contingencies that the institutions presume. The resolution of such a crisis would be seen as a process in which the contracting parties come to believe in an alternative distribution and build new contractual relationships on that basis.

To the extent that the current crisis revolves around unemployment it can be given quite precise meaning in these terms. The institutions sustaining the unemployed, in both the United States and Western Europe, have been designed to be self-supporting insurance systems. Their financial structures thus explicitly embody a set of assumptions about the distributions of unemployment levels over time. The fact that these systems are threatened with bankruptcy means that the actual levels of unemployment lie outside the assumed distribution. This fact is in turn attributable to the failure of assumptions upon which the structure of employing institutions are built, assumptions about the distribution of the levels of product demand upon which the practices of individual enterprises in employment and lay-off are predicated.

Phrased in this way, a theory of long-term contracts would be precisely the theory of regulation that Salais and his colleagues are attempting to develop. But it is here in fact that the real difference between mainstream economics and the approaches of the theory of regulation emerges most clearly. Mainstream theory has been attempting to understand the nature of long-term contracts and the process through which they are generated by focusing on two classes of problems: one in which the underlying distribution of contingent events is known and the other in which stable belief structures about the nature of that distribution can be generated by the interaction of the contracting parties (Robert Anderson 1985).

There are inherent difficulties with this

approach. These include the fact that logically no series of events will necessarily lead one to abandon a given set of beliefs about the distribution of events like the level of unemployment: The occurrence of any particular level of unemployment could simply be attributed to an extremely unlucky roll of the dice. Even a very long string of high levels might be interpreted as an exceptional run of bad luck, a range of experience so unlikely to recur that one would not want to design an institutional structure to accommodate it. This was more or less the rationale for financing the expenses of unemployment throughout the seventies through "loans" to the unemployment insurance system from general government revenue without a basic revision in the tax and benefit structures. When one is led by events to abandon the old beliefs about the underlying distribution a further problem emerges. Given the number of interrelated contracts and hence the number of different belief systems at stake in a modern economy, it seems very unlikely that a stable set will ever be generated by discrete interactions of the kind on which mainstream theory is focusing. If this is so, then belief systems must be imposed in some other way. The other way might be through some kind of social contract, through a political compromise engineered by a coherent ruling class, or a sociocultural process through which some limited set of institutional structures is given salience.

It is a concern with these alternatives that distinguishes the research agenda of the French school and of those of us in the Anglo-Saxon world who share, in one way or another, its perspective. Understood in this way, the relevant literature is not necessarily that on unemployment per se; it is the literature that tries to understand the broader institutional structures of which unemployment is a by-product. In the U.S., work along

these lines includes the studies of Harry Katz (1985) and Tom Kochan et al. (1986) in industrial relations, Paul Osterman's work on employment and training systems (forthcoming), Mel Horwitch's work on what he calls "post-modern management" (forthcoming), Ouchi's study of the ways in which American management has sought to adapt Japanese business practice (1981), and Piore and Charles Sabel's book about the evolution from mass production toward flexible specialization (1984). The popular press, and indeed much of the community of academic economists (Norton 1986), has assimilated this work to the debate about industrial policy. But in fact it should really be understood as cousin to the French school. The basic research strategy is the "levered" case study. Its essence is to use the variation in institutional arrangements across industries, countries, and historical periods to enlarge the repertoire of arrangements that we know to be possible; to use the contrast between those possibilities and the arrangements that are actually realized in a given industry at a particular time and place to suggest the operative constraints; and finally to seek to envisage ways of circumventing those constraints by combining the arrangements drawn from the enlarged repertoire in novel ways. *L'invention du chômage* provides us with a model of how to approach one particular policy problem in this way.

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BOOK REVIEWS

General Economics; Theory; History; Systems

010 GENERAL ECONOMICS

The laureates: Seven Nobel economists.
 Edited by WILLIAM BREIT AND ROGER W. SPENCER. Cambridge: MIT Press, 1986. Pp.
 35. \$13.95. ISBN 0-262-02255-9.

JEL 87-0004

"I don't take their word for it!" The advice is common in economic discourse: we economists do not trust the explanations agents give for their actions. We try to relegate the subjective to objective functions and rely on revelation of feelings in choices that can be observed. Thus we repress the personal in economic discourse.

Effective repression notwithstanding we do indulge in speculation about personal details when it comes to the behavior of economists. We like to know what goes on in their heads, which particulars account for their ideas, why they got to be good (or bad). That is why a volume with lectures of seven Nobel winners about themselves will be in demand.

William Breit organized the lecture series and provided the material. He invited, in order of appearance, Arthur Lewis, Lawrence Klein, John Arrow, Paul Samuelson, Milton Friedman, George Stigler, and James Tobin to present "personal memoir under the general rubric 'My Evolution as an Economist'." The selection with an American university at the time of the award and the principle of variety guided their selection. (In 1983, the year of the lecture series, there were eleven economists who met the first criterion.)

The larger purpose was, Breit and Spencer write in their introduction, "to provide important source material for a theory of scientific discovery." The Nobel laureates themselves, however, are unsure whether they have much to contribute to that purpose. Samuelson hints

at the messiness of the process of discovery: too many ideas crowd his research diary with too many cross-references to allow the construction of a causal story. Stigler champions the view that "a knowledge of the life of a scholar is more often a source of misunderstanding than of enlightenment about his work." He does not attach much value to the role of the environment in the genesis of economic ideas. Arrow downplays his biographical statements because he does not believe that personality matters much in science. Contrasted with these explicit disclaimers, Klein's is implicit as he keeps personal detail to a bare minimum. (The computer plays a critical role in his story.)

Admittedly, they all tell us about people who influenced them, reconstruct the progression of their ideas, and remind us of the intriguing phenomenon of simultaneous discoveries (see especially Arrow's lecture). But to get insight into the process of discovery we want to go beyond the brief autobiographical statements, and grill them or, if we would like theoretical insight, ask Herbert Simon who is not only a Nobel prize winner himself but has also dedicated his latest intellectual efforts to this very subject.

Nevertheless, these lectures tell us a lot of other things. They tell us tidbits about the lives of the authors, maybe not enough to justify the title of the book but sufficient to satisfy our need for personal details. Important information is also in the ways of story telling. One of the authors told the editors: "I do not know that I could keep it between the Scylla of false modesty and the Charybdis of boastfulness . . ." *Le style est l'homme*; the remark betrays Samuelson who in his lecture portrays himself as the virtuoso who achieves highest honors with minimal pain and maximal pleasure baffling anyone who ventures to watch. Such words do not come from Tobin who meditates in his story between assertiveness and modesty or Klein who narrates his in a matter of fact manner.

ner—but not without making sure that credit comes where credit is due. Remarkable is Lewis' account. He makes us first of all realize that being black in the world of economists does make a difference. And then he tells a story in which fortune has the better part with him as the unwilling participant who nevertheless repeatedly generates controversy with his ideas. Such a story, which is almost an apology for his being where he is, forms a stark contrast with the one by Friedman or by Samuelson. Friedman also gives credit to chance in his story but claims his stage without self-consciousness and reservation; the latter sees himself so much the orchestrator of his own story that he chooses to tell it in the third person.

Yet even if one is not interested in the self-images that these Nobel Prize winners portray, one may find much of interest in the image that they collectively paint of their time and generation. We recognize a generation who started careers in economics with great enthusiasm. All these economists, now in their late sixties and seventies, were excited about the possibilities of mathematics and statistics in economics while admiring people such as Hotelling, Wald and Von Neumann. Keynes provided them with substance for argument, but the mathematicians gave them their self-image as scientists. We realize also through their stories that economics was getting made in the USA. England plays only a minor role; the central locations are places such as Harvard, Chicago and Columbia.

Accordingly, slim as this book may be, it is rich in content. It is recommended to anyone who is interested in knowing how we got where we are now.

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Human desire and economic satisfaction: Essays on the frontiers of economics. By TIBOR SCITOVSKY. New York: New York University Press, 1986. Pp. xii, 209. \$45.00. ISBN 0-8147-7862-3. JEL 87-0349

"Nothing is ever so simple," says Tibor Scitovsky at the end of one of the 14 essays in this charming book, "that a single explanation will adequately explain it." That he views the world as complex is evident from his approach here to the age-old question of why some peo-

ple are happier than others. The explanation in standard neoclassical economics fails, he reminds us, to illuminate why self-ratings of happiness tend to be unresponsive to economic growth. His own thesis goes a long way toward illuminating this particular finding. But true to his dictum, he refrains from claiming that the issue can now be laid to rest.

Scitovsky accepts the neoclassical assumption that the individual endeavors to maximize utility. He is understandably disturbed, however, by the lack of attention within neoclassical economics to the sources of utility. To determine how well a person is using the opportunities he is presented, we must identify his needs, suggests Scitovsky, and then determine how he resolves the conflicts these inevitably generate. Neoclassical economics has shied away from this task, and so, it has disqualified itself from a policy role on diverse matters central to the human experience.

In Scitovsky's own framework, there are two sources of utility: comfort and stimulus. The former depends on the level of output, the latter on changes in its level and characteristics. The introduction of a new appliance generates lasting comfort. It also generates some excitement, which soon wears off, though, leaving a void to be filled by a new stimulus. In general, this could take the form of a challenge to one's skill, strength, or intellectual ability, or else a threat to one's life, health, economic welfare, status, or self-respect. A claim that runs through all the essays is that modern progress has blocked some of the main avenues of excitement: much work has become routinized, and both physical dangers and economic insecurity have diminished. These developments, Scitovsky observes, have induced people to look for excitement elsewhere: dangerous sports, games of chance, exotic travel, do-it-yourself tasks, political agitation, and various forms of crime.

But, he further observes, these activities have not quenched people's desire for excitement, for the demands of work leave little time for their pursuit. Herein lies his explanation for the finding that people's self-ratings of happiness have been stable in the face of the unprecedented economic growth of recent decades: in the process of increasing people's comfort, this growth has left them with an excitement deficit. This explanation does not con-

dict with the evidence that at any time and in any society high-income individuals tend to have higher self-ratings than low-income individuals. High-income groups contain a greater-than-average proportion of people whose jobs are relatively stimulating or whose incomes have recently risen.

What could be done to close the excitement deficit that progress has borne? Scitovsky puts emphasis on teaching people how to generate more excitement from the leisure time at their disposal—on developing, that is, their consumption skills. This could be done by reorienting school curricula toward the humanities and by subsidizing programs for the young. Such measures, predicts Scitovsky, would lead to a fall in crime: people who, because their consumption skills are underdeveloped, now seek excitement from violence would turn to painting, literature, and theater.

This is a bold argument that touches on issues of fundamental importance. Coming from an eminent economist with an impressive knowledge of psychology, it deserves to be taken seriously. It does, I hasten to add, have a glaring limitation, which is that it devotes little attention to the social determinants of personal excitement. The stimulation a person derives from a play comes partly from his subsequent critical and recreational talks about it with others. So the fewer of his acquaintances see the play, the less opportunity there is for stimulation. The task of providing people with enough excitement is thus a social coordination problem. If lots of people attend plays, then the individual who attends will find the experience sufficiently stimulating to justify his time and expense. But if few people attend, he will find the stimulation insufficient, and in accordance with Scitovsky's theory, he will seek stimulation elsewhere.

Given that the latter condition characterizes modern society in general and American society in particular, what can be done to establish a superior coordination equilibrium? Scitovsky does not address this question directly. But from several of his essays it is apparent that his solution would involve the abandonment of permissive child raising. Parents and teachers, he asserts, currently give their children and students far too much freedom in choosing courses and in allocating time after school. But

children are incapable of making wise choices in these areas, because they know little about their future needs. Left to their own devices, they naturally favor the momentary thrill of video game to the painstaking process of learning to play the piano. It is essential to children's future happiness, Scitovsky believes, for parents and teachers to reclaim the authority that they have surrendered.

There is nothing novel about this prescription. Scores of social commentators have advanced it forcefully, including the historian Christopher Lasch and the psychologist Christopher Badcock. What is remarkable about this version is that it has been developed by a respected economist in choice-theoretic terms. Textbook economics teaches us that less choice cannot lead to more happiness. Scitovsky has added one more chink to the armor of this principle, already dented by developments in the fields of public choice, games, and institutions.

Other issues that receive attention in the book include the measurement of inequality, the benefits of monopoly and monopsony, and the dynamics of capitalism. On the last issue, he argues that capitalism is becoming increasingly calcified, as bureaucratization, expansion of government, and growth in the size of firms reduce the responsiveness of buyers and sellers to market signals. Characteristically, he refrains from predicting the demise of capitalism, pinning his hopes on the emergence of a new idea that will pave the way for the recovery of lost flexibilities.

Neither individually nor collectively do the essays present a fully developed argument. Scores of theoretical claims fall out of thin air, and only some of the empirical assertions are backed up by systematic evidence. The book is ruminative, discursive, and in many respects, merely suggestive.

This is no complaint, for Scitovsky's aim in these essays is simply to introduce various concepts and models and to encourage empiricists and theorists to carry them off in new directions. I think that many economists and other social scientists will find the book both enjoyable and profitable to read. It is loaded with interesting ideas, and it sheds light on some puzzling phenomena. In addition, it is written in an easy and unintimidating manner, with

no attempt to complicate intuitively simple propositions through cumbersome notation or terminology.

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020 GENERAL ECONOMIC THEORY

Benefit, cost, and beyond: The political economy of benefit-cost analysis. By JAMES T. CAMPEN. Cambridge, MA: Harper and Row, Ballinger, 1986. Pp. xii, 240. \$29.95. ISBN 0-88730-106-1. JEL 87-0018

The book is an attempt by a radical political economist to argue that benefit-cost analysis (BCA) is a conscious exercise to strengthen monopoly capitalism. However, previous to asserting this he rejects the view that BCA is biased toward either a liberal or conservative perspective. Reading the book I was saddened to see how ideology could totally dominate over fact. It gave me an uncomfortable feeling that, possibly, bourgeois economists, who rely too heavily on theory without fact to support their policy prescriptions, may be faulted as well.

The book has four parts: 1) an introductory description of benefit-cost analysis, 2) a weighing of arguments that BCA is either liberal or conservative, 3) a major section that argues that BCA's development "was promoted and shaped by capitalist efforts in pursuit of their class interests in accumulation and reproduction" (p. 184), and 4) a short final section that presents the author's vision of a socialist world and of how BCA can be part of the transition to socialism.

The author's description of BCA is adequate enough to characterize its general nature, but not sufficient to instruct one in how to do a study. In Part II he presents a liberal indictment, a defense, and then a summing up. The author summarizes the criticisms of BCA, which are all familiar, although he claims that he does not know of any place where they have all been brought together. The bottom line of his evaluation is that BCA should have the support of liberals since its thrust is to "curtail weak claims rather than weak clients" (p. 95). This section concludes with familiar caveats such as, Do not rely on BCA when the problem is too intractable for our known measurement techniques and, be alert to politically distorted applications. One can argue with some specific

points in the analysis, but on the whole it is reasonably done. It is the last half of the book that reaches for originality, deals with the radical criticism of BCA and, here, almost every page gives rise to wonderment.

The author's "radical" thesis is that:

Under the guise of promoting the public interest, individuals and institutions representing the most class-conscious elements of the capitalist class played a dominant role in shaping and implementing BCA during the period between World War II and 1970. (p. 122)

Therefore BCA will contribute to choices that serve the general class interest of the capitalists. His proof is dependent upon such strained arguments as the linking of the Reform movement at the turn of the century with BCA. First he cites radical historians to prove that the Reform movement was to serve the interests of capitalists and was profoundly antidemocratic since it made extensive reliance on "experts." Then he links the reformist Institute of Government Research headed by Robert Brookings to the Brookings Institution's publication of Robert Dorfman's *Measuring Benefits of Government Investments* (Washington, DC: Brookings Institution, 1965). This historical continuity is buttressed with a charge that BCA is an instrument by which the expert seeks to bypass the inputs of the "people."

He completely misunderstands the spirit and intent of the founders and later implementers. He charges that BCA by use of experts frustrates democratic checks. However, the objective of benefit-cost analysts has been to constrain the "expert bureaucrats." The bureaucrat technicians are the group that had already frustrated the "democratic" order. Rand's interest in BCA was not to perpetuate capitalist institutions but to establish civilian, and thereby political, control over the military bureaucracy. Experts who had confused their professional criteria and bureaucratic payoffs with the national interests were the target of BCA. Furthermore, the technical argument of BCA is more meaningful to the "people" than the more abstruse bureaucratic reports presented by soldiers, doctors, engineers, psychologists, and similar professionals.

The author insists that benefit-cost analysts accept institutions, and thereby the current power structure. It is true that they usually

are consultants to someone and therefore cannot wander far from the authority of their principal. However, BCA has often gone far afield in dealing with institutional innovation. Benefit-cost analysts were quite prepared to propose institutional changes such as flood plain zoning instead of engineering works, or a volunteer army instead of conscripts. However, so far as I know, no responsible analyst who had to deal with a problem ever threw up his hands and said the only solution was socialism.

Another radical charge is that BCA ignores the process of production and focuses only on consumption. This is charged despite the efforts of analysts to find benefits for family-sized farms, or the choice of job-training programs, or any number of other studies dealing with the supply side. Campen is correct in saying that usually little weight is given to the production side in many studies since it is often the beneficiaries of the contracts to be let who raise specious arguments in favor of the special values of suppliers. And it is the economist who has had to represent the social welfare against the "special interests." However, when supply factors are relevant the analyst does deal with them.

After going through the radical indictment, only samples of which are discussed above, Campen completely reverses himself and says that BCA can be an agent of radical social change and of assistance to socialist planning. This turnabout is presented as a confirmation of his "radical analysis" since he has now found a "contradiction," not in his analysis, but in "capitalism." In the ideological indictment BCA is made nonparticipatory, elitist, protective of capitalist interest and ideology, but in the chapter of contradictions, we are told that all sides in a controversial issue use BCA and that the basic ideas of BCA about social rather than private benefits and costs subvert support for the capitalist market economy! Possibly this is good dialectics but it is bad analysis.

To summarize: there are several much better descriptions of benefit-cost analysis in other books; I could not find any merit to Campen's radical critique of BCA. Students might be given some of the chapters to test their critical abilities.

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The theory of externalities, public goods, and club goods. By RICHARD CORNES AND TODD SANDLER. Cambridge, New York and Sydney: Cambridge University Press, 1986. Pp. xii, 303. \$34.50, cloth; \$12.95, paper. ISBN 0-521-30184-X. JEL 87-0019

This book, intentionally more narrow than a typical textbook but less technical than a work for specialists, is good at what it does, but has a difficult time finding its niche. Its intent is to "provide a more extended discussion of the theory and policy implications of externalities, with particular emphasis on those special cases represented by public goods and club goods" and is intended to be useful for "well-prepared undergraduates," graduate students, and economists "wanting to find out what some of their colleagues in public economics have been up to" (p. xi). The minimum required background is a good understanding of intermediate microeconomics and basic calculus, particularly constrained maximization.

There are five parts: an introduction, one part each on externalities, public goods, and club goods, and a section entitled "Applications and Future Directions." The introduction consists of two chapters surveying the basic concepts and tools of analysis. The section on externalities is also brief, consisting of two chapters that explain why the presence of externalities causes difficulties for the two Fundamental Theorems of Welfare Economics, show some of the relationships between externalities and other concepts like incomplete markets and transactions costs, and describe Pigouvian taxes.

The section on public goods is much longer and generally more substantive. Chapter 5 contains a detailed examination of a Bergstrom, Blume, and Varian (1986) type model of private provision of a public good. The authors characterize the extent of the deviation between the Nash equilibrium outcome and Pareto optimality and discuss how this depends on various factors such as the size of the population. In Chapter 6, they turn to mechanisms that achieve Pareto optimality such as the notion of Lindahl equilibrium and Clarke taxes. This chapter is unduly brief and rather dated. Chapter 7 extends the basic model of Chapter 5 to consider more general assumptions on the public good. Chapter 8 considers several models

that are more explicitly game-theoretic, including a cooperative game-theoretic approach and binary choice models. The last chapter of the section is entitled "Departures from Nash-Cournot Behavior" and consists primarily of a conjectural variations approach to the model of Chapter 5.

Part IV, on club goods, is better still. It consists of six chapters that first give an overview of the club theory approach and then turn to a variety of models in this tradition. An almost bewildering array of formulations is considered, including a cooperative game-theoretic approach, various forms of uncertainty, and intergenerational clubs. The authors generally succeed in keeping the "big picture" in the reader's mind, a challenging task here. The final section of the book provides some discussion of empirical work and applications of the models, a summary of the book, and some directions which the authors consider especially important for future research.

The book has a number of good points. The references, though slightly dated due to publishing lags, are very complete for the areas covered and likely to be useful to researchers. Also, I suspect the book would be quite useful for graduate students in a public finance course. The periodic overviews Cornes and Sandler provide should help students to gain some perspective on the field and on topics within it. The models focused on are generally well-chosen for pedagogical purposes and do a good job of illustrating the key points without undue complexities. This is particularly true of the section on public goods.

Unfortunately, like most books, this one has its drawbacks. First, its intentionally narrow focus means that most people would not wish to use it as a textbook without some supplement. It gives little attention to a number of topics often considered in graduate public economics courses, such as public choice and empirical work. Second, even within the area the authors wish to explore, there are some important omissions. The most glaring of these is the unduly cursory treatment of mechanism design or implementation theory. A large body of theoretical literature on ways to deal with precisely the problems the authors emphasize should not be dismissed with an explanation of Clarke taxes and a brief discussion of the problems of non-uniqueness of equilibrium. More generally, the

treatment of game theory throughout the book is solidly in the tradition of viewing Nash equilibrium as a surrogate "stable point" of a dynamic process, possibly with incomplete information. For example, the authors describe a Nash equilibrium in a two-person game where strategies are public good contributions by saying "equilibrium is based on . . . maximizing behavior subject to a quantity constraint reflecting the other agent's *previous* public good contribution" (p. 19, emphasis added). At another point, they argue "Since the whole context of the game presupposes incomplete information, one cannot jump straight to the Nash equilibrium" (p. 144). It would be inappropriate for me to dwell at length on criticisms of this view. Suffice it to say, those who prefer their game theory "straight up" should be warned that they will find parts of this book hard to swallow.

To summarize, I suspect that the best niche for this book is as a (carefully used) text in a graduate or advanced undergraduate course or as a reference book. As such, I think it will serve its purpose well.

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REFERENCE

BERGSTROM, THEODORE; BLUME, LAWRENCE AND VARIAN, HAL. "On the Private Provision of Public Goods," *J. Public Econ.*, Feb. 1986, 29 (1), pp. 25-50.

Macrodynamics: Fluctuations and growth. A study of the economy in equilibrium and disequilibrium. By PIERRE-YVES HÉNIN. Translation. International Library of Economics series. London and New York: Routledge and Kegan Paul in association with Methuen, NY, [1981] 1986. Pp. x, 455. \$45.00, cloth; \$20.00, paper. ISBN 0-7102-0664-X, pbk.

JEL 87-0023

This book is devoted to an analysis of modern macrodynamics, built around the Keynesian Revolution as the intellectual watershed. Ultimately the author concludes that the changes in thinking which occurred in the 1970s may prove to be as profound as those of the Keynesian era.

This book is divided into four parts. Part I begins with an historical review of the dynamic theories of David Ricardo, Karl Marx, and other pre-Keynesians including Friedrich Hayek and

Joseph Schumpeter. It concludes with a review of Keynes, paying particular attention to the differences between Keynes and Leon Walras. Part II considers behavioral dynamics as reflected in the consumption function, investment decisions, and the role of money. In connection with each the author traces the major developments of the past fifty years showing how post-Keynesian thinking has affected the 1936 Keynesian view of these major aggregate variables. Part III is devoted to growth and begins with an analysis of both its sources and its causes. The author traces the changed perspective, under the influence particularly of Harrod, from statics to dynamics—that is from looking at dynamic theory primarily in terms of cycles as was common in the pre-Keynes era, to the current emphasis in dynamics on assessing the challenges posed by irregular growth rates. Noting that pre-Keynesian thinking fixated on cycles rather than growth, Henin traces the many strands that have contributed to the modern analysis of growth and to assessing questions such as how to determine the optimal growth rate, the costs of growth, the limits to growth, etc. Chapter 8, devoted to the stability and regulation of growth, focuses crucially on the shift from the classical equilibrium paradigms to balanced growth considerations in the post-Harrod world. It is thus a critical link in the consideration of what is involved in getting Harrod's natural and actual growth rates to coincide. Unfortunately the chapter lacks a concluding section, although much of the discussion forms a necessary prerequisite to reaching meaningful conclusions on the possibility for stable growth rates.

Part IV is devoted to short-run instability and in particular focuses on the relationship between inflation and unemployment over the business cycle. It includes a consideration of the changing perceptions of the Phillips curve generally, and in particular examines the differing explanations which have arisen for the increasingly unreliable long-run relationship between inflation and unemployment.

Throughout, the sweep of the approach is very broad indeed. Not only are we exposed to the developments in mainstream thinking on macrodynamic questions from Ricardo through Keynes and the post-Keynesians to the present new classical economists, but the author is careful where possible to include Marxist

thought as well. The book reflects its French past from time to time by relating the discussion to the development of the modern French economy and its current problems.

While many readers, including both students of the history of thought as well as macroeconomists, will find much of interest in this book, in the end it also raises several difficulties. For one thing it is never entirely clear who is the intended audience. If it is the trained professional economist (as one suspects) many explanations would seem to be superfluous or at least overdone. (What is a production function? What is the multiplier?, etc.) On the other hand if it is designed for readers who need these explanations, much of the exposition will almost surely be too difficult to be easily followed. (It is impossible to tell how much of the impression that the text is often difficult to follow is due to the translation and how much to the original French exposition.)

More substantively, the author prejudices current debates about macrodynamics even when it does not appear necessary to do so. He states that Keynes was basically wrong in concluding that a market-oriented system could allocate resources efficiently but could not keep them fully employed and that if we could but find a way to accomplish the latter the former could be reattained as well. He concludes instead that some kind of planning (being French he suggests "indicative planning") will have to be included along with stabilization policies and that the planning will have to include prices, to confront inflation, as well as quantities. No adequate groundwork is laid for these opinions.

There are a few minor difficulties. Occasionally the charts do not appear to have the axes adequately labelled. At times he ignores the straightforward approach for a less familiar or more cumbersome one. For example, he fails to use the terms induced and autonomous investment preferring instead to refer to them as "the two types of investment function we have encountered—the Keynesian function and the accelerator" (p. 115). To take a different sort of example, he suggests that government expenditures in connection with counter-cyclical programs "amount to transitory resources" and so produce a different multiplier effect than would be generated from a change in "permanent income" (p. 92). Empirical investigation

would be more convincing than flat assertion.

If in the end the book's reach exceeds its grasp, it nonetheless is a forthright effort to trace the development of modern macrodynamics, and to assess critically where we stand today in the policy debate which has gripped the field increasingly over at least the past fifteen or so years.

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030 HISTORY OF ECONOMIC THOUGHT;
METHODOLOGY

A history of modern economic analysis. By ROGER BACKHOUSE. Oxford and New York: Blackwell, 1986. Pp. xii, 520. \$34.95. ISBN 0-631-14314-9. JEL 86-0360

I do wish that Professor Backhouse had had the chance to read and meditate upon the recent collection by Richard Rorty et al. (1984) before he had embarked upon the task of writing his textbook. In that praiseworthy volume, Rorty describes four genres of the history of thought: broad-beamed intellectual histories written by generalist historians with no stake in any particular intellectual discipline; "rational reconstructions" of the writings of particular authors which try to correct their "mistakes" and highlight their anticipations of modern doctrines; *Geistesgeschichten* which ask why certain questions became central to a particular discipline; and "doxographies." According to Rorty, doxographies are remembrances from syllabi past, half-hearted attempts to tell a story of intellectual progress by describing all canonical texts in terms of recent orthodoxy. To paraphrase him, doxographies are desperate attempts to make Smith and Debreu, Menger and Commons, and Marx and Coase all talk about some common topics, whether the historian or his readers have any interests in the topics or not. Of these four genres, Rorty argues that the first three perform important functions in any intellectual community, but the fourth does not, because its major *raison d'être* seems to be the reinforcement of the prejudices of the present by insulating us from those in the past most likely to give us disquiet.

I should like to report that this *History* avoids the status of doxography; but alas, I cannot. Its major selling point and distinguishing char-

acteristic amongst history textbooks is that the entire pre-1870 pre-neoclassical body of economics is summarily written off in 50-odd pages, whereas 200 pages are devoted to the period 1870-1939, and 140 pages to the modern period. This must have taken some bravado, since more often than not in courses in the history of thought, the spirit is willing but the flesh is weak, and one rarely makes it into the 20th century before final exams. This book also has some other unusual features, such as two separate chapters on "Economics and Policy in Britain," two chapters on "Scope and Method," and two chapters lumping together a most extraordinarily motley crew under the rubric of "Alternative Approaches." There also are the now-obligatory bows in the direction of Popper, Kuhn and Lakatos. Yet the single most insistent message of this book is not novel in the least. One learns over and over that there has been a long line of fellows (no women allowed except Joan Robinson, and of course, she will not count) who, had they only gone that extra mile, would have stumbled upon the entire corpus of modern neoclassical economics.

Rorty correctly points out that stories like these resemble stories about people who would have discovered America had they but sailed a little further: an anthology of such stories is not a *history* of anything. A costly assemblage of names and dates to memorize and obeisances paid will prove to be few peoples' cup of tea. To see why this should be so, let us provisionally adopt Backhouse's positions that "an important reason for the survival of mainstream economics was that some criticisms were answered very effectively" (p. 239), that modern neoclassical theory is a "progressive research programme" (p. 412), and that "the development of economic theory is to a substantial extent autonomous" (p. 258). Now, if all this were true, then why would anyone be interested in a litany of half-baked and half-correct ideas which either led to (a) today's superior neoclassical theory; or (b) unorthodox dead-ends? After all, consider the physicists: they do not permit the history of physics to be included in their curriculum. This lesson has not been lost on the top graduate research programs in economics in the U.S. of the last two or three decades.

From this vantage point, the intellectual history of a discipline and the philosophical litera-

ture attached to it share the same taint. Inspection and self-examination are regarded as betraying a sort of metaphysical loss of nerve. I believe it is this latter conviction that explains the ritual homage paid to Popper and Lakatos in economics. In this *History*, the student is not acquainted with the hair-raising problems of the underdetermination of theories by data, the incommensurability of rival research programs, or the role of rhetoric in sustaining practice in the face of adversity, all problems which gave rise to that literature in the first place. Instead, the student is given a smattering of "methodology" in order to foster the impression that Popper and Lakatos describe physics, Popper and Lakatos can be applied to economics, ergo (unstated) economics is also a science.

The genre of history represented here is ultimately self-defeating, because its principles render it unsuitable for the serious study of the history of economic thought: "External" influences do not count, so there is no need to waste time on them. Anyone not an orthodox neoclassical economist was fundamentally misguided, so there is no need to expend the effort to get their systems right. Indeed, so insignificant are the unorthodox that those sections (including the obligatory one on the old bete noire himself, Marx) are written almost exclusively from secondary sources. Even the heroes of the narrative, the protagonists of the marginalist revolution, are so badly folded, spindled and mutilated that one cannot tell them apart (Mirowski 1987). Worst of all, this *History* is written as if from some detached Olympian height, without the emotional light and heat of the best histories, be they pro- or anti-neoclassical. At least "rational reconstructions" want to argue with famous dead economists, while *Geistesgeschichten* want to sweep the stables clean and reorganize the pantheon. Doxologies just lull the audience to sleep.

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The history of statistics: The measurement of uncertainty before 1900. By STEPHEN M. STIGLER. Cambridge, MA and London: Harvard University Press, Belknap Press, 1986. Pp. xvi, 410. \$25.00. ISBN 0-674-40340-1.

JEL 87-0040

This is a delightful book. It is a beautifully written account of the development of statistics, from the probability theory of Jacob Bernoulli, and the struggle with measurement errors by the early astronomers, to the regression and correlation analysis of Francis Galton, Karl Pearson, Francis Y. Edgeworth, and George Udny Yule. Professor Stigler gives us broad vision and meticulous scholarship. He has examined original sources, publications, and correspondence. He takes us into the central details of the problems that gave rise to statistical methods, be they about the motions of the moon and planets, the shape of the earth, the measurement of population, the conviction rate in the French courts, the heights of military conscripts, human ability to assess which of two objects is heavier, or the sizes of successive generations of sweet peas. He shows us the data that were used, and the calculations made from them, warts and all. He gives the mathematical derivations that were central to the development of statistics. Much of his story can be richly enjoyed by statistical novices, but the technical passages use probability theory and differential and integral calculus just as the founders did.

The book is beautifully produced. It displays some three dozen reproductions of historic pages of publications and notes by the giants of statistics, and some dozen of their portraits.

The first part of the book deals with the development of statistics for astronomy and geodesy in the hundred-odd years ending with the death of Pierre Simon Laplace in 1827. Here the practical scientific problem was the "combination of observations": how to proceed when there are conflicting observations of a physical phenomenon. The principle of least squares, first published by Adrien Marie Legendre in 1805, became the accepted method. This part of the book culminates in Stigler's account of the "first great synthesis" of 19th century statistics, by Laplace and Carl Friedrich Gauss, relating least

squares to the theory of probability and the normal distribution.

The remaining two thirds of the book is devoted to the slow spread of statistics to the social sciences, and to the transformation wrought by the theory of regression. Stigler argues that probability theory could not be applied to social data unless one could either (a) be certain that the data were homogeneous, that is, were measurements of an invariant phenomenon such as the motion of the moon or the shape of the earth, so that the theory of errors could explain all the variation, or (b) devise a method of dealing with their heterogeneity, by holding constant the factors causing it. He explains why (a) was a failure in social science, while giving a lively account of Adolphe Quetelet's attempt to create a "social physics" wherein statistical methods were to lead to natural laws of social behavior, almost independent of free will.

Stigler notes that statistical methods were quickly adopted in the psychometric work of Gustav Fechner and Hermann Ebbinghaus, where the heterogeneity problem could be solved by controlled experiments. But in most of the social sciences, where controlled experiments are not possible and data are heterogeneous, Stigler finds the solution in regression analysis. It enabled Galton and his successors to hold constant, conceptually, factors responsible for heterogeneity.

Stigler portrays Galton as the imaginative idea man who originated the concept of regression (though he used medians rather than means); Edgeworth as the theorist who developed and generalized its mathematics; Pearson as the zealot who saw the power of Edgeworth's work, developed the methodology, and sold it to the world; and Yule as the technician who saw that linear regression can substitute for controlled experimentation, and who laid the foundation of the analysis of variance. Stigler closes with the second great synthesis, uniting least squares with the theory of regression and correlation. An economist might wish for mention of the simultaneous-equations-bias problem among those cited as not solved by regression and correlation, but that is a minor matter.

There are many amusing sidelights. For example, a report to Napoleon on the progress of mathematics said that Legendre's method sets the sum of the squared deviations to zero!

Was this deliberate exaggeration, or ignorance? We do not know. Another: A distribution of the heights of 100,000 French men called for military service showed 2,275 more men exempt for being too short than would have been expected under the normal curve, and fewer men than expected in the group just above the eligibility limit. Quetelet's conjectured explanation: fraudulent under-reporting of the heights of some 2,200 men who should have been required to serve.

Stigler tells his tale with enthusiasm, grace, and style. He conveys a sense of high intellectual drama. He shows the place of statistics in the broad sweep of scientific method. He has written a truly admirable book.

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040 ECONOMIC HISTORY

Money and banking in medieval and Renaissance Venice. Volume 1. Coins and moneys of account. By FREDERIC C. LANE AND REINHOLD C. MUELLER. Baltimore and London: Johns Hopkins University Press, 1985. Pp. xx, 684. \$45.00. ISBN 0-8018-3157-1.

JEL 86-0050

The Venetian city-state played an important role in the economic development of premodern Europe. Strategically situated at the crisscrossing of trade routes linking Western, Central, and Eastern Europe with the Mediterranean and Levantine worlds, Venice emerged in the high Middle Ages as one of the eminent centers of mercantile activities, which it remained through the Late Middle Ages and the Renaissance, and even beyond. Indeed, for some portion of this centuries-long span Venice occupied a pre-eminent position in the trade of the West. No other single locus exerted so strong an influence for so long a period of time.

After five centuries or so of a relatively obscure existence, the city of Venice began its rise to power in the early eleventh century. By the beginning of the thirteenth century the Republic ranked as a major imperial power, and by the latter part of that century it was the center of the European bullion market. A attainment of that status was certainly promoted by its position as the natural Mediterranean

for silver from Hungarian and German. More than geography was involved, for, as the authors show here—and about the study—the importance of the gap between Republican policies and the rise of the city's economic for-

story told by Reinhold C. Mueller and Frederic C. Lane explains this Venetian element in terms of the success of the Republic's inhabitants in developing a viable and complex system of managing moneys of account, coinage, and trade in bullion, within the framework of a bimetallic monetary frame. During the Middle Ages, long-distance trade was financed on the basis of coins or bills, and as the period progressed, on the basis of written instruments defined in terms of value. A welter of political entities, large and small, minted coins, the reliability of which varied tremendously. Thus, a premium became attached to moneys of account that exhibited a reasonable degree of stability, and it was this such a reputation that the money market of Venice established, and upon which built their dominant position in international trade and foreign exchange.

This is a work of formidable scholarship. Lane and Mueller have drawn upon a widely diverse range of sources, ranging from individual merchant account books, notarial registers, and collections of mercantile practices, to legislation and governmental decrees, the records of the Venetian Mint, and the coins themselves. Incidentally, are excellently illustrated. On this base may be, it is of course not without important lacunae: there is, for example, no continuous price series of any real value for Venice. The authors work the extant evidence for all it is worth, carefully and with great artistry, making clear what the records tell us, and what we are unable to know,

the book makes a major contribution to the study of money as a measure of value and a medium of exchange. It offers a rich and vast amount of evidence, explored in painstaking detail. Yet this major virtue also finally becomes the source of its most serious shortcoming: the authors never do succeed in lifting their view from the level of the particular to that of the general. The book lacks any underlying

or unifying theme. As suggested at the outset of this review, what makes the study of this period of Venetian history worthy of special interest is the significant role played by Venice in the economic history of the West, in what is often termed "the rise of capitalism." The authors' failure to relate their very admirable treatment of the specifics of the Venetian experience to that larger—and most important—process is a major disappointment.

Aside from this criticism, however, the volume stands as a testament to high scholarly standards. There is much to be learned within its five-hundred pages of text and one-hundred-forty pages of appendices, whether the reader's interest be in matters monetary, numismatic, or economic historical. Ironically though, for the reason noted, the book will likely have less to offer to economic historians, in general, than to those members of the profession interested in learning something about the evolution and articulation of an early monetary system.

Lane was the principal author of this volume, which focuses on coinage and the moneys of account, and brings the story up to 1508. The planned second volume is to turn attention to an analysis of the development of banking institutions and practices. Perhaps that is where the authors intended to address the broader issues and framework.

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The economic organization of war communism, 1918–1921. By SILVANA MALLE. Soviet and East European Studies series. Cambridge, New York and Sydney: Cambridge University Press, 1985. Pp. xv, 548. \$49.50. ISBN 0-521-30292-7. JEL 86-1018

In this history of the early Soviet economy, Malle assesses "the degree of correspondence between legislation and its implementation" (p. 24) and the relative importance of ideological and pragmatic influences on institutional innovation. She covers nationalization, enterprise management, macroeconomic policy and performance, industrial administration and planning, food requisitioning, and military procurement.

Malle argues that the Bolsheviks initially favored selective, gradual nationalization of industry but were quick to ideologically rational-

ize accelerated nationalization prompted by labor unrest and civil war.

Management underwent a rapid evolution, imperfectly reflected in legislation. The Bolsheviks first promoted workers' control as a counterweight to politically conservative managers but later restored one-man management in the interests of efficiency and accountability.

Revenue from taxes and state enterprises covered only a small fraction of government expenditure. A potentially important source of revenue—rent on nationalized land—was foregone in an effort to win peasant support. The budget deficit was financed by printing money. From 1919 onward the Bolsheviks claimed that rapid expansion of the money supply served not only to finance the budget deficit but also to destroy the purchasing power of money held by remnants of the bourgeoisie. Malle argues inconclusively that the Bolsheviks did not have the latter aim in view when they began the monetary expansion. The timing of pro-inflation statements suggests to her an effort to "rationalize" an unintended development (p. 174). Yet if the Bolsheviks initially intended to use inflation to expropriate money-holders, they would not have wanted to forewarn their victims and erode the base of the inflation-tax. Malle believes that the supposed inflationary intentions were belied by "the relationship between money issue and the rate of price increases. The rate of issue always lagged behind the rate of money depreciation" (p. 179). But this relationship is found whenever the velocity of money rises, as it typically does in a period of accelerating inflation, regardless of the authorities' intentions (Cagan 1956).

In 1920–21 the mean quarterly growth rates of the nominal money supply and the price level were 47.8 percent and 79.4 percent respectively. Surprisingly, Malle does not view the monetary expansion as the major cause of the inflation. Rather, she asserts that "price increases were determined in the first place by the fall in production, and in the second place by the high velocity of circulation of money, induced by inflation itself" (p. 179). Neither part of this explanation makes sense. Production was falling at a quarterly rate of only 1.3 percent (Clarke 1972, p. 6). A high velocity helps explain a high price level, not a high inflation rate.

Marxist ideology, Malle argues convincingly, encouraged centralization but provided no detailed scheme of industrial administration. The exigencies of civil war and interagency bickering shaped the organization of Soviet industry. War communism did not crystallize into a stable set of institutions before it gave way to the New Economic Policy in 1921. Nonetheless it inspired theoretical work on economic planning that found application a decade later when attempts at central planning were resumed.

The breakup of large estates in 1917–18 reduced food marketings. When the supply of food to cities and the army fell to worrisome levels, the Bolsheviks launched a campaign to requisition from rich peasants all food in excess of consumption requirements. Their efforts to enlist poor peasants in the campaign were not very successful. Malle believes the Bolsheviks overestimated their chances of splitting the peasantry because they overlooked a leveling trend in the distribution of rural wealth. Paraphrasing Teodor Shanin (1972), she notes that longitudinal studies of peasant households reveal "a strong centripetal mobility in relation to median wealth, i.e. the rise of the poorer households and the descent of the wealthier ones" (p. 336). It is not clear what conclusions Malle wants to draw. Regression toward an average is not evidence of declining variance. (Remember Francis Galton and his peas!) Nor is movement of households among strata self-evidently conducive to social harmony. Arguably, newly impoverished groups are militant until they become resigned to poverty and parvenus are resented until their privileges come to seem natural (Moore 1978). Perhaps the Bolsheviks' difficulty in mobilizing poor peasants was due more to a lack of rural cadres than to a misassessment of rural stratification. When the Bolsheviks abandoned requisitioning in 1921, their stated reason was not resistance by poor peasants but disincentives to food production.

Provisions for a growing army were squeezed from a contracting economy by radical measures, detailed by Malle. Rations for workers in military industries were set above average but docked to penalize absenteeism. Workers in critical industries were put under military discipline. When nationalized industry was unable to supply needed goods, craftsmen were mobilized. Food was requisitioned. Army units

aged in combat were put to work in and gathering wood for fuel. Malle arguably that the most durable legacy of measures was a militarization of socialist y.

She has done extensive documentary research. Her thirteen-page bibliography lists in six languages. Sixty-six tables present otherwise inaccessible data. In a work scale, rough spots are not surprising. expositions of Soviet writings are occasionally cryptic; in some cases she may have a faithful summary of a muddled document failed to flag the confusion. She does explain the derivation and meaning. She underutilizes theoretical and statistics. Nonetheless, she has produced a informative work, an indispensable ref-

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Times, other places: Macroeconomic lessons from U.S. and European history. By LES L. SCHULTZE. With a preface by James Tobin. Arthur M. Okun Memorial Lectures series. Washington, DC: Brookings Institution, 1986. Pp. xiii, 88. \$15.95, cloth; \$5.95, paper. ISBN 0-8157-7766-3.

JEL 87-0057

These three essays, based on the second set of our Okun Memorial Lectures at Yale University, examine some central empirical issues in business cycle analysis from a comparative perspective. The comparisons are either time (the prewar vs. the postwar U.S., lectures I and III) or across countries (the experience of the U.S. vs. that of several European countries, in Lecture II). Methodologically, the essays revolve around estimates

of informally derived equations, in traditional Brookings fashion. The lectures are addressed to a wide audience, ranging from policy makers to research economists, and perhaps including educated laymen.

In the first essay, Schultze discusses the inertial nature of inflation, with an emphasis on changes in the behavior of the U.S. inflation process over the last century. In the second essay, he compares the U.S. and several European countries with respect to the rigidity of real wages. Finally, the third essay examines possible explanations for the allegedly greater volatility of real GNP and other cyclical indicators in the pre-World War I, as opposed to the post-World War II, United States.

Lecture I is an attempt to forge some middle ground between the now standard "natural rate" Phillips curve with rational expectations and a traditional "invariant" Phillips curve. Given the degree of inertia which one can get out of existing Phillips curves models with staggered or asynchronized price setting—even in the presence of rational expectations—it is not clear what we gain from this enterprise. At any rate, the route taken here, which is declared to be in the tradition of Okun and George Perry, is somewhat different, emphasizing the cognitive dimensions of wage setting behavior instead of the formal timing aspects. Schultze argues that moderate short-run changes in price inflation do not get incorporated into expectations (or "wage norms," as Schultze prefers to call them) at all, so that the short-run behavior of the economy may be close to that described by the pre-accelerationist Phillips curve. Agents do, however, perceive (and respond to) major changes in regime, such as occurred in 1896 when a deflationary regime associated with a dearth of gold-mining gave way to one of abundant gold supplies and inflation, or in 1973-74 when supply shocks were recognized as ubiquitous for the first time. At the level of econometric implementation, Schultze's preferred Phillips curve concept revolves around the inclusion of dummy variables for the years 1896, 1968, and 1974. This is disappointing, as it has the air of ex post rationalization rather than that of hypothesis formation and testing.

Chapter II takes issue with the now orthodox view of the persistence of European unemployment since the middle 1970s. Schultze argues

that once a correction is made for movements in the real exchange rate, European real wages are, if anything, more downwardly rigid than those in the United States. Schultze notes (see page 53) that the argument here may not be fully convincing, precisely because of its dependence on corrections for movements of the real exchange rate. I would go a step further, and note that modern theories of small open economies (variants of the so-called "dependent economy" model) stress the intimate connection between movements in real wages and movements in real exchange rates. Schultze's conclusion rests on the auxiliary restriction that "the nominal exchange rates adjust to keep the real exchange rate constant" (p. 50). Yet, in the case of small open economies, it is very difficult to conceive of movements in the real wage without having such variations felt in the real exchange rate.

Chapter III considers the variability of output in the pre-1914 period vs. the post-World War II years. Schultze dismisses Christina Romer's arguments that the apparently greater stability of output in the postwar era may be an artifact of data construction procedures far too quickly. He then goes on to argue that, to the extent that output was less stable in the earlier period, one should not place the blame on exogenous instability in the money stock during that time. Although I am sympathetic to Schultze's conclusion, I do not find his major piece of evidence—the low degree of variability in annual data on pre-1914 commercial paper rates—convincing. Nominal interest rates from the early period show dramatic high frequency variation, though they look rather stable at the annual frequency because of their lower degree of persistence relative to postwar rates (N. Gregory Mankiw and Jeffrey A. Miron, "The Changing Behavior of the Term Structure of Interest Rates," *Quart. J. Econ.*, May 1986, 101(2), pp. 211–28). Even avid proponents of the monetary view will grant that the liquidity effects of monetary shocks on interest rates are short lived. With an appropriate propagation mechanism, one may well be able to generate substantial instability of output from the high frequency interest rate movements which are excluded from Schultze's annual data.

In summary, though I find few of the major arguments in these lectures persuasive, I do

find the topics stimulating. I recommend this book to those who are sophisticated enough to appropriately filter the arguments, and sufficiently flexible to tolerate the inevitable ambiguities.

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100 Economic Growth; Development; Planning; Fluctuations

120 COUNTRY STUDIES

The Israeli economy: Maturing through crises.

Edited by YORAM BEN-PORATH. Cambridge, MA and London: Harvard University Press, 1986. Pp. viii, 426. \$45.00. ISBN 0-674-46878-3. JEL 86-1047

This volume includes seventeen essays by prominent Israeli economists on the evolution of Israel's economy in the first thirty-five years of its independence. The major themes follow closely those set out by Don Patinkin (1960) in a review of the first ten years of Israel's history. The effect of mass immigration, the evolving sectoral structure of the economy, changes in the quality of the labor force and patterns of earnings, the impact of defense spending, the unusual macroeconomic problems Israel has experienced and many other topics are covered with competence and originality. In a short review, I can focus on only a few of the papers likely to be of general interest.

Israel experienced extraordinarily rapid growth in per capita GNP between 1950 and 1973, with relatively slow growth, comparable to the OECD experience, since 1973. Thorough growth accounting explanations of the change in aggregate performance are provided by Jacob Metzger, who documents the slowdown in both capital accumulation and total factor productivity growth. The post-1973 period was characterized by an increasing rate of inflation, an outward shifting Phillips curve, and a deteriorating current account. Michael Bruno notes the similar experience in OECD countries with the exception of the accelerating rate of inflation. The growing rate of inflation in the late 1970s and early 1980s receives careful analysis in several papers including those of Bruno, Bruno and Stanley Fischer (the only non-Israeli contributor), and Leviatan and Pitterman. While the

authors differ in emphasis, they all reject an important autonomous role for wage indexation (a process carefully examined by Kleiman) while emphasizing the importance of Israel-specific features of the capital market. The precise mechanism by which forces that, in other economies, lead to a change in the price level result in an increase in the rate of inflation in Israel receives particularly close attention in several of the papers although there are significant differences in emphasis among the various authors. The basis of the 1985 stabilization plan adopted by the Israeli government can be gleaned from the papers in this section, as several of the authors were important in the policy-making process.

The microeconomic papers follow a long tradition, begun in the early 1950s, that attempts to explain major features of Israel's economy such as the high and rising share of services (Klinov), the excessively high allocation of investment to housing (Mayshar), the effect of the high and rising level of education on wage structures (Amir), and the forces maintaining income differentials among population groups that immigrated from different regions (Ben-Porath). Except for a paper by Syrquin comparing many dimensions of Israel's growth experience with that of other countries, there is little reference to developments in other nations. Yet many of the phenomena analyzed are similar to those in other countries and Israel's patterns of development and difficulties do not appear as unusual as is occasionally implied by some of the authors.

A significant omission in the microeconomic section is the absence of attention to Israel's technological development which permitted an extraordinarily rapid rate of growth of industrial exports despite government policies that provided a bias towards sales in the domestic market. Recent rapid growth in nontraditional exports such as scientific instruments, agricultural technology, and metal products (including weapons) reflects considerable investment in the acquisition of technological capability as well as intelligent science and tax policies with respect to these sectors. Future macroeconomic policies to reduce domestic absorption and to improve the profitability of exports would not be as promising if potential exports consisted solely of traditional products such as textiles,

clothing, and polished diamonds whose profitability is threatened by new producing countries. The vastly augmented production capability in newer sectors was, in many cases, not an endogenous response to changing comparative advantage but reflects specific interventions to alter the structure of production (Teubal 1983).

A paper by Berglas analyzes the impact of the country's huge defense expenditures, averaging over 25 percent of GNP during the last fifteen years, in contrast to the three or four percent typical of most Western European countries. A careful evaluation of other costs not included in conventional GNP accounting suggests a still greater burden. While there are some economic benefits, including the spinoffs from technological developments, it is clear that defense requirements have exerted a major negative impact on the level and rate of growth of national output.

Despite its unique origins and continuing security problems, Israel's economic performance has been fairly good though less than might have been expected in the last fifteen years. The papers in this volume demonstrate fairly conclusively that a large part of the disappointing performance is attributable to poor government policy. To some extent this reflects an incomplete understanding among economists in Israel, and elsewhere, of inflation in an open-economy setting; even now there is only tentative agreement on the outlines of a new paradigm. But the Israeli government also failed to use the considerable useful knowledge that was available in the universities, the Bank of Israel research staff, and its own ministries. The decision to ignore such advice partly reflects electoral politics, the familiar political business cycle. More deeply, it stems from a crisis in institutions. As Ben-Porath notes in his superb introductory essay, the institutions that were of importance for nation building may not be appropriate in a modern economy that needs to respond quickly to a variety of changing conditions. The current dilemma is nicely captured by Syrquin,

The Yom Kippur War, the energy crises, recessions in advanced countries, and the slowing of population growth combined to cast doubts on Israel's capacity to accommodate divergent interests. A zero-sum view of the economy and society

seems to have eroded the long-standing national consensus on objectives. The next decade will tell whether the proper reference group in future international comparisons will be Scandinavia as long-term trends indicate, or South America, as the recent past suggests. (p. 74)

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130 ECONOMIC FLUCTUATIONS; FORECASTING; STABILIZATION; AND INFLATION

Indexing inflation and economic policy. By STANLEY FISCHER. Cambridge, MA and London: MIT Press, 1986. Pp. xi, 490. \$25.00 ISBN 0-262-06098-1. JEL 87-0085

Following the injection of the rational expectations concept into macroeconomics approximately 15 years ago and the ensuing (monetary) policy ineffectiveness debate, the field underwent a major transformation. The energy shocks of the seventies led to a reexamination of the costs and consequences of inflation and to thorough investigations of the effects of widespread indexation. Fischer's important and sometimes pioneering contributions to those topics have appeared in various professional journals and conference volumes. This book brings these articles, some of which have become classics (like Ch. 1 and 2 on the costs of inflation, Ch. 5 on wage indexation and stability, Ch. 9 on the demand for index bonds, and Ch. 13 on the optimal money supply rule), under one cover. It also features a number of previously unpublished policy oriented essays. The book represents Fischer's research in the area of inflation, indexation and economic policy between the mid seventies and the mid eighties. It is a blend of theory, empirical work and good sense all aimed at delivering concrete and informed answers to practical policy questions.

The book contains seventeen essays that are divided into four groups. The first group deals with the welfare effects of inflation and the public's attitudes to it. The second explores various macroeconomic interactions between indexing

and economic policy and examines the relative merits of alternative disinflationary strategies. The third investigates the factors that determine the demand for and supply of index bonds, offers an extensive discussion of the reasons for the nonexistence of such bonds in the U.S. and examines the welfare aspects of governmentally issued index bonds. The last group discusses a wide spectrum of macro policy issues ranging from the desirability of activist monetary policy in the presence of nominal wage contracts to the problem of dynamic inconsistency of fiscal policy.

I turn now to a more detailed description of the book's essays. Chapter 1 (with Franco Modigliani) is a systematic listing of the effects and costs of inflation and of inflation uncertainty in the presence of nominal government institutions. Chapter 2 makes a bold attempt at quantifying the costs of a ten percent inflation for the U.S. economy given the institutions this economy had at the beginning of the eighties. The chapter's conclusion is that the total cost of inflation in the 1980 U.S. economy is far from being negligible. Chapter 3 launches into the relationships between inflation, inflation uncertainty, and relative price variability and concludes that much of the positive association between inflation and relative price variability in the seventies was due to food and energy shocks.

Chapter 5 is one of the first formulations of the, by now well-known, result that wage indexation stabilizes output and employment in the face of nominal shocks and destabilizes those two variables when supply shocks predominate. Chapter 6 investigates possible links between indexation and inflation. Using cross sectional data on a sample of forty countries during the first oil shock the chapter concludes that the more heavily indexed countries accommodated the first oil shock less than the less heavily indexed countries. Chapter 7 examines the employment costs of disinflation for alternative disinflationary strategies. The basic difficulty faced by stabilization programs that are based mostly on monetary contraction is that the contraction operates only on currently negotiated contracts. The chapter notes that the sacrifice ratio (output loss per unit of reduced inflation) depends on whether expectations are rational or adaptive and on the credibility of policy. A more relevant

distinction that broadens the chapter's results seems to be between quickly and slowly adjusting expectations both of which are rational. Chapter 8 discusses the output costs of disinflation when the exchange rate is used as a nominal anchor. Factors favoring an exchange rate over a money target during disinflation are discussed. The lessons of this chapter and of the unpublished paper on which it is based may have influenced the successful July 1985 Israeli stabilization package.

Part III which focuses mostly on the theory of the demand, supply and valuation of index bonds is not discussed for reasons of brevity.

The first chapter of Part IV (Ch. 13) is a well-known paper on long-term contracts and the optimal money supply rule which demonstrates that activist monetary policy is feasible and desirable even with rational expectations. The origin of the result is in the (realistic) assumption that nominal contracts stretch over a period that is longer than the period over which new relevant information becomes available. Chapter 14 summarizes the case in favor of activist monetary policy. Chapter 15 is one of the clearest formulations of the dynamic inconsistency of optimal fiscal policy. The chapter brings out the reason for the remarkable result (originally due to Finn Kydland and Edward Prescott 1977) that the optimal policy is time inconsistent even when all individuals are identical and the policy maker maximizes the utility of the representative individual. Chapter 16 discusses the case for and against a national money. The chapter concludes that the benefits of a national money outweigh its costs. Chapter 17 is a case study of the Israeli inflation and indexation during the end of the seventies and the first part of the eighties.

In the debate about the effectiveness and the desirability of activist monetary policies Fischer comes out as a strong believer in activist policy. This position as well as results concerning wage indexation and stability and the impact of alternative disinflationary strategies are all anchored on the nominal contract paradigm. That is, the nominal wage rate is predetermined for the period of the contract and employment during the contract period is determined unilaterally by employers. There is little doubt that many wages are fixed for some time. However, the evidence on whether the employment decision

in actual contracts is left to the employer is less clear. The book claims that in real life contracts it is left to the employer but does not provide much evidence. This and the closely related theoretical question concerning the optimality of Fischer-Taylor nominal contracts should be viewed as subjects for future research. In general the models used in the book are rigorous but stripped down to the minimum necessary to discuss the main issue at hand without cluttering it with secondary details. It is interesting to observe how the author's research focus evolved over time from various aspects of indexation in the mid seventies, through an extensive examination of the costs of inflation at the end of the seventies, to an investigation of alternative disinflationary strategies later on. The correlation of those issues with the rate of inflation in the U.S. is notable and underlines the focus of the book on timely policy issues.

In conclusion academic, as well as policy oriented, economists will find in this collection of essays some of the most authoritative, up to date and relevant discussions of inflation, indexation and related policy issues.

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The American business cycle: Continuity and change. Edited by ROBERT J. GORDON. National Bureau of Economic Research Studies in Business Cycles, vol. 25. Chicago and London: University of Chicago Press, 1986. Pp. xiv, 868. \$78.00. ISBN 0-226-30452-3.

JEL 87-0086

The American Business Cycle is a book that all macroeconomists will want to own. This NBER conference volume contains thirteen essays that place the modern American business cycle in historical context. The essays analyze such topics as how the behavior of the components of expenditure have changed over time and why aggregate economic performance may have improved between the prewar and postwar eras. While the various chapters make for

interesting reading, the book will be most useful as a compendium of facts. Economists interested in a wide variety of macroeconomic relationships will be able to discover the nature of those relationships in the periods on either side of World War II.

Unlike most conference volumes, *The American Business Cycle* is a reasonably coherent work. Most of the papers focus on the "continuity and change" in the American business cycle mentioned in the book's subtitle. The exceptions to this focus are found in the first section, which contains papers on the nature and source of cyclical behavior in the postwar period. One of the most interesting papers in this section is Olivier Blanchard and Mark Watson's analysis of "Are Business Cycles All Alike?" This study combines a vector autoregression and a simple structural model fitted to the resulting residuals to identify the source of shocks to the economy and to discover whether business cycles are caused by small, frequent shocks or by large, infrequent shocks.

Another important paper in this section is J. Bradford DeLong and Lawrence Summers' contribution, "Are Business Cycles Symmetrical?" This study examines the usual assertion that downturns are brief and severe relative to trend while expansions are longer and more gradual. DeLong and Summers conclude that business cycles are in fact reasonably symmetric. As a result, they argue that there is little reason to prefer the traditional reference cycle approach to modern time-series methods.

The other sections of the book deal with more historical topics. One major section includes three studies that analyze the continuity and change in the cyclical behavior of consumption, fixed investment, and inventories. All three of these studies contain interesting facts about the role of each component of expenditure in determining aggregate behavior. However, they share the common limitation that they only deal with the period after 1919; they thus identify the "prewar" era with the Great Depression and reveal nothing about the American business cycle before World War I.

This same limitation applies to Ben Bernanke and James Powell's otherwise excellent paper, "The Cyclical Behavior of Industrial Labor Markets." Included in the section entitled "Changes in Cyclical Behavior," it compares

the behavior of employment, wages, and productivity in the 1920s and 1930s to that in the postwar era. The paper analyzes a neglected National Industrial Conference Board data set derived from a monthly survey of a wide variety of manufacturing industries. Using modern time-series methods, Bernanke and Powell conclude that facts typically associated with the postwar labor market, such as procyclical labor productivity, apply to the interwar period as well.

Also included in the section on changes in cyclical behavior is an important debate between John Taylor and DeLong and Summers on the source of improvements in macroeconomic stability between the prewar and postwar eras. Taylor argues that macroeconomic performance improved despite a decline in wage and price flexibility because the shocks to the economy were smaller in the postwar period. DeLong and Summers, on the other hand, argue that the decline in wage and price flexibility actually caused the stabilization by preventing destabilizing movements in expected inflation and hence in the real rate of interest.

While the preceding discussion should make clear that there is much of interest in *The American Business Cycle*, it is perhaps useful to note some of its limitations. The most obvious concerns methodology. Nearly all of the authors pay homage to Arthur Burns and Wesley Mitchell's classic study *Measuring Business Cycles* (1947). However, in place of the Burns and Mitchell reference cycles methodology, most of the authors use vector autoregression (VARs) to establish the "facts without theory." Indeed, the use and respect for VARs is so prevalent in these essays that the authors of one of the few papers that includes a structural model feel compelled to explain to their colleagues that their model "is a vector autoregression that has been constrained in a particular way suggested by economic theory" (p. 195).

The widespread use of VARs in many ways makes the analysis in several of the papers seem quite dated. While VARs were very new and appeared exceedingly promising at the time the papers were written, much has been learned in the nearly three years that elapsed between the conference and publication. For example, the research of Thomas Cooley and Stephen LeRoy (1985) has shown that many of the as-

ms associated with variance decomposition impulse response functions are as ar as the zero restrictions VARs were sup- o avoid. Furthermore, VARs tend to edingly hard to interpret. A common of many of the papers is that the VAR are ambiguous. I suspect that Allen ; a discussant at the conference, is cor- noting that "a principal conclusion to m is that you cannot get something for . If we are unwilling to impose a struc- the data . . . the data may mislead us epting that the world is as lacking in e as this approach" (p. 449).

ond way that the book is somewhat lim- at it is basically Keynesian in approach. for an article by Robert Barro on the of budget deficits, the New Classical h to business cycles is ignored. Simi- he recent controversy over whether in fact a business cycle is not discussed.

the papers deals with the finding of Nelson and Charles Plosser (1982) (and iently elaborated on by John Campbell

Gregory Mankiw, forthcoming) that ay be a large permanent component ations in output.

resence of these limitations should not rom the importance of *The American ycle*. Rather, it should point out how urther research is needed before econo- nderstand the nature of economic fluctu- nd how those fluctuations have changed ie. It is precisely in this future research : *American Business Cycle* will be most its compilation of facts and insights will the starting point for additional re- on economic fluctuations in the years

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Economic forecasting and policy—The international dimension. By JOHN LLEWELLYN, STEPHEN POTTER AND LEE SAMUELSON. International Library of Economics series. London, Boston and Melbourne: Routledge and Kegan Paul, 1985. Pp. x, 288. \$22.50. ISBN 0-7102-0600-3. JEL 86-1062

The principal thesis of this volume is the importance of allowing explicitly for international interdependence in the formulation and execution of national economic policies. This conviction is rooted in the collective experience of the authors as long-term staff members of the Organization of Economic Cooperation and Development (OECD). The book is both a non-technical primer on econometric forecasting and policy analysis using the OECD INTERLINK multinational model and a commentary on and history of economic policy and its effects in the OECD region since the 1950s.

Part I deals with policy making in an open world economy, including chapters on the contribution of policy in the 1950s and 1960s, policy successes and failures since the early 1970s, and the increasingly important influence of international linkages through trade, investment and finance. The discussion of linkages stresses both the external constraints on macroeconomic policies of individual countries,

Hence for reasons that begin with the balance of payments and end with inflation, a country has little scope, in the great majority of cases, to allow its domestic demand to grow significantly faster than its traditional relativity with demand in its trading partners (pp. 58-59)

and the amplification effects of synchronized expansionary or contractionary policies. These propositions are documented primarily by informal verbal analyses of selected historical episodes. It is disappointing that greater use was not made of quantitative econometric analyses of the various historical episodes, such as must have been made with INTERLINK and are also available in publications from Project LINK and other multinational modeling efforts. Similarly, there is very little systematic information provided on linked and unlinked policy multipliers in the OECD model.

The heart of the book is Part II on international economic forecasting; it contains a description of the genesis and characteristics of the INTERLINK model and its central role in the development of the semi-annual forecasts prepared for the meetings of the OECD Economic Policy Committee and subsequently published in the *OECD Economic Outlook*. In keeping with the purposes of the authors, the description of the structure of INTERLINK is qualitative and informal—nary an equation is to be found—providing the general reader with a basic outline of the system and its capabilities but containing little documentation for informed judgment on the technical merits of the model.

In common with most multinational systems, INTERLINK comprises a set of structural country models which are linked together by endogenous trade flows and prices as well as endogenous exchange rates and capital flows. The country models themselves are basically disaggregated IS-LM models augmented with supply-side equations for wage (labor-market Phillips curves) and price (markup equations with capacity utilization constraints) determination. On the international level, commodity prices also feed back to domestic cost and price structures. Consistency of trade and financial flows and prices is assured by appropriate weighting procedures in the world solution algorithms.

The description of the role of INTERLINK in the making of the periodic OECD forecasts will be especially interesting to users of the forecasts. The INTERLINK model basically determines the international consistency of the linked country forecasts, operating within the nontrivial constraints that policy variables must be set consistently with announced economic policies of the member governments and that nominal exchange rates are assumed to be unchanged over the 18-month forecasting horizon. Country-model inputs are provided largely by desk officers, and procedures have been worked out for systematic interaction between the INTERLINK model and the country specialists as the linked forecast evolves through successive rounds. The final forecasts as published have therefore been scrutinized closely within the OECD research organization and also by experts from OECD member countries and the Economic Policy Committee. Presumably, however, the published forecasts may not rep-

resent the preferred unconditional forecasts of the INTERLINK team, owing to the aforementioned constraints involving announced policies and constant exchange rates.

Part III contains a capsule history of macroeconomic policies in the OECD region during 1979–1983 and a chapter on international cooperation in economic policy making, including historical examples of successful cooperation during the Smithsonian currency realignment of 1971 and the agreement on a coordinated policy package at the Bonn Summit of 1978. The authors conclude that cooperation involving joint commitments to specified policy actions has been disappointingly slim and discuss some of the obstacles to greater cooperation. Positive suggestions are offered as immediate steps to improved international cooperation: (1) achievement of agreement on appropriate policies to improve supply-side performance by moving toward more market-conforming behavior, and (2) intensification of timely exchange of information among countries about current policy motivations, plans for the period ahead, and the ways in which they would be likely to respond to various contingencies.

As the authors note, INTERLINK is not a research vehicle but a framework for deploying the empirical work of OECD Secretariat's Economics and Statistics Department on issues which the Secretariat is regularly called upon to address (p. 162). This book provides an excellent description of the policy environment and institutional setting within which the model is employed and a judicious appraisal of the successes and failures of macroeconomic policy making in general since the 1950s.

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200 Quantitative Economic Methods and Data

210 ECONOMETRIC, STATISTICAL, AND MATHEMATICAL METHODS AND MODELS

Fixed point theorems with applications to economics and game theory. By KIM C. BORDER. Cambridge, New York and Sydney: Cambridge University Press, 1985. Pp. viii, 129. \$29.95. ISBN 0-521-26564-9. JEL 86-0447

I remember that, as a graduate student studying mathematical economics, I was constantly

on the lookout for good reference books. Where could I find the most elementary proof of Michael's selection theorem? What was the relationship between Brouwer's fixed point theorem and the Knaster-Kuratowski-Mazurkiewicz lemma? The problem with looking through mathematics textbooks is that the topological tools used by economists are so specialized and that mathematics books contain so much information not immediately relevant to a mathematical economist. Books about mathematical economics, on the other hand, contain only the mathematics directly relevant to a specific application, often given without proofs and without explanations of interconnections between different mathematical results.

This little book is the one that I was always looking for as a graduate student. It is a systematic presentation of the fixed point theorems used in mathematical economics and game theory. As well as presenting statements and proofs of these theorems, the author shows how they are relevant in economics and game theory.

After a brief introduction to general equilibrium models and games, the book develops the basic concepts of convexity theory and topology to be used. It then goes on, over the space of four short chapters, to prove the Knaster-Kuratowski-Mazurkiewicz lemma and Brouwer's fixed point theorem. The approach used is the combinatorial one: the author defines the concept of simplicial subdivisions and proves that each one contains a completely labeled subsimplex. This is, of course, Sperner's lemma. Using the fact that every sequence on a compact set has a convergent subsequence, he then easily obtains the K-K-M lemma and Brouwer's theorem. This approach is a popular one in economics because, as the author explains, Herbert Scarf has converted a constructive proof of Sperner's lemma into an algorithm for computing approximate fixed points.

Using similar elementary approaches the author proves a number of important results that have been used by mathematical economists and game theorists. The most central of these are: the maximum theorem, which gives conditions under which the set of solutions to a constrained maximization problem varies as an upper-hemi-continuous, point-to-set correspondence with the parameters of the problem; Michael's selection theorem, which gives conditions under which a continuous function can

be selected from a correspondence; Kakutani's fixed point theorem; and the Fan-Browder theorem, which gives conditions under which two correspondences defined on the same set have image sets that intersect.

The emphasis here is on the mathematical results themselves rather than their economic applications. Nonetheless, proofs of the existence of equilibrium in market economies, of Nash equilibria in noncooperative games, and of the core of cooperative games are included. The author has an interest in economies and games in which the agents do not have transitive preferences, and so the book puts special emphasis on this topic, proving a number of original results.

Perhaps the book's greatest strength is that the level of mathematical sophistication it requires is uniform throughout. If the summary of its contents in the previous three paragraphs does not sound familiar, then this book is not for you. There is nothing in it, however, that a graduate student studying mathematical economics should not be able to follow and understand. Another feature that I find particularly attractive is the stress that it puts on the interconnections and cross-references between results. There are, in fact, two chapters devoted to such interconnections, for example, how the Fan-Browder theorem implies Kakutani's theorem, how the equilibrium existence theorem implies Brouwer's theorem, and, of course, how the K-K-M lemma both implies and is implied by Brouwer's theorem.

One minor shortcoming is that the author cannot seem to decide whether he wants a textbook or a reference book. On one hand, too many proofs of results are left for exercises for it to be an ideal reference. On the other hand, the material is too specialized and there are not enough applications for it to serve as the principal textbook for a graduate course in mathematical economics. I would also have liked to see more use of simple diagrams to illustrate results, although there are a number of diagrams used effectively in the early parts of the book.

A reviewer is always tempted to criticize a book for not being the one that he would write if faced with the same task and endowed with the same amount of energy as the author. As much as I enjoy this book, I will give in to this temptation and mention how disappointed

I was not to see any material on topological index theorems or the Poincaré-Hopf theorem. These results, which are closely related to the material presented in this book, have been used over the past decade to prove the uniqueness of equilibrium in economies and games and, more recently, to prove the existence of equilibria in models with financial assets and models with sunspots. I would have very much liked to have a ready reference to these topics, written with the same conciseness and clarity as the material presented.

Overall, this is a beautiful little book. As a researcher in mathematical economics and a teacher of graduate courses in the subject, I am very glad to have it on my bookshelf. I only wish that it had been written ten years ago so I could have had it as a student.

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220 ECONOMIC AND SOCIAL STATISTICAL DATA AND ANALYSIS

Income distribution: Theory, modeling, and case study of Brazil. By GIAN S. SAHOTA AND CARLOS A. ROCCA. Ames, Iowa: Iowa State University Press, 1985. Pp. ix, 236. \$24.95. ISBN 0-8138-0988-6. JEL 86-1082

In this book, Sahota and Rocca analyze income distribution in Brazil using an ambitious multisector multiregion model. While most specialists accept that the determination of income distribution in less developed countries is a very complex matter, only a handful of intrepid explorers have charged ahead in this direction. Though not the largest such model in terms of number of equations, this one's subtlety of specification makes it an interesting test of the potential of the genre in helping us to better understand income distribution and the policies that affect it. Brazil is an appropriate subject country. If not the extreme case of economic inequality in the world it is in the running; it also has a history of rapid growth and structural change. Both authors have studied Brazil extensively.

Sahota and Rocca begin with a useful chapter reviewing the competing theories of personal income distribution. They then provide chapters on the major building blocks of the overall model—the urban sector, the agricultural sec-

tor, the public sector, and the interregional flows of capital, labor, and goods. These self-contained submodels are tied together in the overall model, which is then used for several exercises in policy optimization. The submodels are used to calculate impact elasticities to show how changes in the exogenous variables affect the income of each of three income classes.

The heart of the book, in which the models are developed and put through their paces, is a hard read, due both to the size of the apparatus and to the frequent terseness of the discussion associated with individual equations. But it is a good base from which to consider the hoped-for strengths and the inevitable weaknesses of the large computable general equilibrium approach to the study of income distribution.

Chapter Two's review of personal income distribution theories, while only loosely connected to the rest of the book, effectively argues the importance of integrating the Cambridge theories of inherited fortunes and the Chicago human capital model. While that need should have been obvious to any but the wearer of ideological blinkers, the marriage has indeed been belated. The modeling of the rest of the book is similarly judicious in weaving together supply and demand side factors, so that results are not prejudiced by built-in bias toward either a strongly neoclassical or a strongly Keynesian structure. Unlike most analysts of distribution, the authors do try to incorporate public consumption in the income concept. And they allow, both in principle and in their estimating procedures, for the possibility that imperfect markets can leave marginal value products unequal to factor payments.

Despite these promising features, avoidable and unavoidable problems diminish the contribution of this modeling effort to a better understanding of income distribution in Brazil. Weakness and incompleteness of the data base is in the main unavoidable, though time does bring improvement. Inadequate time to probe individual relationships and the lack of solid prior work to aid one are matters of degree. Most of the few large distribution-oriented models undertaken so far, including this one, would have benefited from two to three times more work in trying to get the individual equations right, and from more team members to provide

on a wider range of issues. Finally, of the more serious weaknesses of the under review, the opaque nature of models coupled with the costliness and difficulty of providing evidence on robustness sensitivity can easily leave even the careful unable to sort the wheat from the chaff. Much credibility should we give the coming from the "urban model" of 1983, that "government expenditure on urban comes out pro-rich" (p. 54) when the effects of changing supplies of educated are not included in the analysis (p. 54)? How plausible is the result that "past urban growth in Brazil, through its general equilibrium interactions, fosters growth of per incomes" (p. 154)? Perhaps it is so, but there are many slips, twixt cup and lip in this analysis. When the result of such a model is at odds with theoretical prediction or with partial analysis in a partial framework one must be cautious, but when the opposite is the case one simply cannot have much confidence in equilibrium results coming from a web-network. Sensitivity analysis and ex-discussions by the authors of the more important conclusions would help. The former is provided here, partly because the technique is optimization rather than simulation; the latter is largely missing and were it provided the doubtful results which emerge from models, would contribute to a much bigger picture. Few cautious readers will trust results they not only are but can be seen to be stating well-specified underlying relationships knowing this is a big job. The individual components of the Sahota-model, most of them previously published elsewhere, are, it seems to me, more than the whole. They display much modesty and more care than does their inclusion into the overall model. Their above-average attention to price effects is unusually good. There is no doubt that this exercise is as favorably to most models of the sort. It provides many specific insights for analysts on the distribution in less developed countries both the complete model and the models providing useful heuristic devices in dating the mechanisms underlying the distribution of income. But even leaving aside that the authors' goal of undertaking

dynamic policy analysis with the full model proved computationally impossible with their dynamic program, the basic problems of such models are all too present: one gives away too much of the potential richness of specification possible in partial analysis (partly through lack of knowledge of a specific area, partly through lack of energy, and partly because the model has to be contained within a reasonable size); and the opaqueness of the workings of the model together with the transparent oversimplification of some assumptions reduces its credibility.

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300 Domestic Monetary and Fiscal Theory and Institutions

310 DOMESTIC MONETARY AND FINANCIAL THEORY AND INSTITUTIONS

Perspectives on safe and sound banking: Past, present, and future. By GEORGE J. BENSTON, ROBERT A. EISENBEIS, PAUL M. HORVITZ, EDWARD J. KANE, AND GEORGE G. KAUFMAN. MIT Press Series on the Regulation of Economic Activity. Washington, DC: American Bankers Association in cooperation with MIT Press, Cambridge, MA and London, 1986. Pp. xxi, 358. \$19.95. ISBN 0-262-02246-X.

JEL 87-0116

The American Bankers Association, obviously concerned about the rising number of bank failures, commissioned five reputable economists to study and to report on the principal options and their recommendations for making the U.S. banking system more safe and sound. The basic thrust of the Report is to shore up the existing system of government deposit insurance by innovative reforms that will not appear too unpalatable either to the banks or to the regulators and to introduce more market discipline by having deposit holders and bank stockholders assume more risk while the regulatory agencies assume less.

There are eleven chapters of the Report with each of the five authors having single or joint responsibility for individual chapters. The hazards of such a distribution of responsibility are obvious, but I found few faults with the execution. A Report, more than most multi-authored

books, must be the result of a consensus, since generating recommendations and not simply setting out the state of knowledge is its main purpose.

The first five chapters address the broad questions of bank failure risk, number and significance of bank insolvencies in an historical context, remedies for eliminating bank failure including government and private deposit insurance, and the central bank as lender of last resort. The remaining six chapters analyze and make specific recommendations for allowing a larger role for market discipline as a device for reducing overall bank risk, initiating market value reporting instead of historical cost accounting to improve the quality of basic accounting information, having bank insurance premiums adequately reflect bank risks, and increasing the effectiveness of bank supervision and performance.

A twenty-two page appendix summarizes their recommendations including options specifically rejected. Some of those recommendations include: (1) Risk-adjusted charges for deposit insurance to limit excessive risk-taking by bank owners; (2) the insuring agency and not the chartering agency should be given authority to close insolvent institutions promptly before net worth departs very much from zero to minimize losses of uninsured depositors; (3) more reliance should be placed on market discipline as a disincentive for excessive risk-taking; and (4) as lender of last resort, the Fed should lend only with full collateral or through the deposit insuring agencies.

The authors correctly identify the source of instability of deposit banking as the existence of par-value deposits—deposits fixed in price in terms of the money-of-account. But they say nothing about its rationale. They assume that it is external as do most bankers. Par-value deposit banking provides the depositor with an asset with zero price risk while the bank shareholder assumes the burden of changes in net asset value. Its basic flaw is an innate susceptibility to bank failures. But what is difficult to comprehend is why the authors confined their analysis solely to makeshift rather than to *ultimate* remedies for bank insolvencies. A permanent solution resides in the abolition of par-value deposit banking. By converting depositors from creditors of a bank to mutual fund

shareholders, the threat of insolvency posed by unanticipated asset liquidation vanishes; the full burden of asset losses is assumed by the depositor. Deposits would be treated like shares in an open-end investment company or mutual fund to be redeemed at net asset value. The removal of the threat of bank runs undermines the foundation for entry restrictions into the transactions services industry. Non-par deposit banking removes the chief obstacle to relaxation of legal constraints on complete freedom of entry into the banking industry. Understandably, the authors probably reasoned that so radical a solution was not what the ABA paid them for. Even if unacceptable to the bankers, there are ample reasons for at least informing the nonbank readers of an interesting alternative. The title of the report is: *Report on the Perspectives on Safe and Sound Banking, Past, Present and Future*. Non par-value deposit banking is certainly a feasible future perspective!

The Report takes a revisionist approach to bank runs and their effects. It states that the risk of deposit runs is greatly overstated and that large scale bank failures do not happen to have been a normal part of the American scene (certainly more normal than experience abroad). In their judgment excessive sensitivity to bank deposit runs was a legacy of the Great Depression when more than 9000 banks failed between 1929–1933. It was the aftermath of that trauma that generated the view that all bank failures were an unmitigated evil. But as the authors rightly emphasize, bank failures per se are not necessarily harmful. Most of the failures were highly localized with insignificant effects on overall economic activity. Systemwide bank failures—more familiarly known as financial crises or panics—have had more serious economic effects and are responsible for the public's negative attitude to bank failures.

Bank failures are perfectly consistent with a safe and sound banking system as long as they remain uncontagious. There may be more bank failures with increased bank efficiency and at the same time with appropriate reform less risk of systemwide financial crises. The question, however, still remains unanswered: When and under what circumstances do banking failures become systemwide banking panics? There is little comfort or solace in the author's conclusion: as long as the central bank and the FDIC



meet their responsibilities, there is no danger of a collapse of the banking system. The same thing could have been said of the Fed in 1929.

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Deregulating financial services: Public policy in flux. Edited by GEORGE G. KAUFMAN AND ROGER C. KORMENDI. Mid America Institute for Public Policy Research Book series. Cambridge, MA: Harper and Row, Ballinger, 1986. Pp. xiii, 223. \$29.95. ISBN 0-88730-111-8. JEL 87-0124

In what respects should banking be regulated? If any, according to what criteria? Not since the debate surrounding Peel's Bank Charter Act of 1844, perhaps, has so much been written as in the last few years on the basic questions concerning government treatment of banks. Today, as then, debate has been stimulated by the manifest problems of a banking industry already regulated more heavily than other industries. Disinterested expert answers in both periods have ranged from "regulate nothing, in the interests of flexibility and efficiency" to "regulate in every way which promises to promote stability and safety."

This volume presents seven essays by knowledgeable economists on how to reform U.S. banking regulation in the twin interests of safety and efficiency for the system. The authors and editors are all currently academicians, but the biographical information identifies every one of them as a former employee or current consultant (presumably paid) to two or more government agencies. The argumentation is both theoretical and historical, carried on in prose adorned by relatively few statistics and almost no equations. The prose is blessedly readable for the most part.

Six of the chapters originated as papers presented at a conference organized by the Mid America Institute for Public Policy Research in June 1985, and are here published for the first time. The exception is Chapter 1 by George J. Benston, an earlier version of which was previously published in the *Journal of Bank Research* for 1983. Benston's essay gives a sweeping historical overview of the reasons (both ostensible and actual) for federal regulation of banking in the United States. The second chapter, coauthored by Benston and George

G. Kaufman, surveys and evaluates the risks contributing to recent bank failures. Chapter 3, by Allan H. Meltzer, urges the U.S. monetary authorities to pre-commit themselves to a Bagehot-type lender-of-last-resort policy. In Chapter 4, Edward J. Kane, drawing largely from a chapter of his recent book on *The Gathering Crisis in Federal Deposit Insurance*, launches a frontal attack against the mispricing and enlarged scope of FDIC and FSLIC deposit guarantees. The fifth chapter offers Michael Mussa's views on the pros and cons of restricting competition by banks. The succeeding chapter, by Franklin R. Edwards, considers the question of banking competition along antitrust lines. In the seventh chapter Robert A. Eisenbeis argues the case for no longer barring firms that provide banking services from entering other lines of financial services and commercial activity.

The policy orientation of all seven essays is moderately free-market. It is moderate in that none of the authors argues for complete laissez-faire in banking. It is free-market in that the efficiency properties of unhampered market outcomes are emphasized. Numerous banking regulations are identified as impediments, sometimes intentional, to the development of a financial system that meets consumer demands efficiently. Despite minor differences between the more free-market authors (Benston and Kaufman) and the more moderate ones (Mussa), the range of opinion here is narrow. Far from being a shortcoming, this gives the book a degree of coherence unusual for a conference volume.

A more serious conflict looms between the goals espoused coequally in the editors' preface: efficiency and safety. To recommend more than the efficient level of safety, after all, is to pit one goal against the other. Unfortunately no one in the volume confronts this issue. Mussa's ex cathedra paragraph of rebuttal to "a purest [sic] believer in laissez-faire" (p. 129) and Meltzer's passing references to externalities (pp. 88, 92) notwithstanding, no author attempts to rebut seriously the viewpoint that a first-best financial system operates under laissez-faire with a caveat emptor policy (only fraud is prohibited, and risk of bank failure is something banks and their customers may privately choose to accept or to shift or reduce at a cost). From such a

viewpoint the essays argue largely for second-best reforms. The second-best set of financial institutions they endorse differs from *laissez-faire* by containing a government deposit insurance agency and central bank. It differs from today's status quo principally in having the deposit insurance agency vary its premiums according to the riskiness of a bank's portfolio (every single chapter criticizes the flatness of the FDIC's current premium structure), and in having the central bank precommitted to intervene as a classical lender of last resort (and only to intervene as such).

An exception to the second-best orientation is the chapter by Mussa, much of which takes mispricing of deposit insurance for granted and accordingly descends into the exitless swamp of devising third-best policies which pile restrictions on banks in an attempt to compensate for the associated distortions.

The best chapters are the first (Benston), second (Benston and Kaufman), and fourth (Kane). The first is valuable for its no-nonsense debunking of various myth-based rationales frequently offered for banking regulation. This debunking—showing that the operative motivations for bank regulatory legislation have generally not been market failures but rather the desires to tax and to limit competition—is a useful antidote to the apologies for regulation commonly offered elsewhere, including later in this book. (I do not, however, understand Benston's defense of reserve requirements, for these are subject to the same sort of debunking.) I would recommend this chapter for the reading list of any money and banking course, undergraduate or graduate.

Chapter 2 is recommended for its persuasive explanation of the increased frequency of failures in recent years. Deregulation is exonerated, while extended and increasingly mispriced deposit insurance plays a central role. Kane in Chapter 4, far more than any of the other authors, comments perceptively on the political obstacles that free-market reforms face, and shows a wry understanding of how bureaucracies should be expected to act. The irony is all the stronger, then, that he aims to "make the FDIC and FSLIC act more like private insurers" (p. 100) as though such a project were not contrary to all we know about bureaucratic imperatives.

An unusual feature of the volume, reflecting

its origins in a reform-minded conference, is the inclusion of a list of policy recommendations accepted by a majority vote of the conference's eighty participants. Like the essays, the recommendations reflect a moderate free-market outlook. As interesting as the recommendations themselves is the inclusion of dissenting statements by unsatisfied participants. Some dissenters take a more radically *laissez-faire* line. The representatives of the smaller banks and the thrift industry, on the other hand, indicate clearly the special-interest opposition to free-market reform. True to the role of small banks in originally promoting FDIC insurance as a way to subsidize their competition for deposits against larger, sounder banks, the spokesmen for the Independent Bankers Association of America and the United States League of Savings Institutions sharply dissent from proposals to limit the scope of deposit insurance. Not surprisingly, they also oppose a recommendation of benign neglect toward banking mergers and acquisitions, and the thrifts' spokesman protests recommendations to eliminate line-of-business and geographic restrictions on banks.

This is a useful and informative volume. In focusing on moderate reforms the authors no doubt intended to avoid being unrealistic about what is attainable through the political process. There is room for disagreement, however, on the question of which ideal is more realizable and which more fantastic: a *laissez-faire* monetary system, or a government bureau that acts either (1) as if it were a private firm in a competitive market, or (2) selflessly and efficiently according to an academic blueprint. In any event the focus here is on making the best of our bank regulatory institutions rather than on possibilities for doing without them. Even a *laissez-faire* purist will find most of this effort pointed in the right direction.

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Money, finance, and macroeconomic performance in Japan. By YOSHIO SUZUKI. Translated by ROBERT ALAN FELDMAN. New Haven, CT and London: Yale University Press, 1986. Pp. xvii, 218. \$22.50, ISBN 0-300-03387-7. JEL 86-1090

Since the beginning of the 1970s, the Japanese monetary system has experienced various fundamental changes; transition to floating ex-

rates, two oil crises, financial innovation, new electronic devices, gradual deregulation and internationalization. Thus, the basic characteristics of the Japanese monetary system described in *Money and Banking in Contemporary Japan* (Yale University Press 1980, originally published in Japanese in 1974) by the author, have undergone many important changes. In this new book, Yoshio Suzuki describes the recent development of the Japanese monetary and financial system and, at the same time, surveys recent studies on Japanese macroeconomic performance by Japanese academics. In particular, by the Bank of Japan economists who have often been under attack.

Dr. Suzuki addresses the issue of the evolution of the Japanese financial system. The author starts with a description of the historical evolution of the Japanese financial system focusing on the dual role of interest rates, namely, the coexistence of regulated rates and market-determined rates and indicates that rationales for keeping artificially low interest rates to facilitate investment in export-oriented sectors have been diminishing (Ch. 1). He then looks at several quantities that indicate changes in the pattern of funds. The government sector has become a large borrower, the corporate sector has become a less important borrower, and the role of predominance of indirect finance in the commercial banking sector has diminished (Ch. 2). Japanese monetary institutions are in transition as the result of financial innovations. Dr. Suzuki analyzes the economic factors that promote financial innovation. Such as technological improvement, high interest rates due to inflation, the de-regulation of the Japanese financial market, foreign competition and the increase in output; public debt foster financial innovation and changes in the regulatory framework (Ch. 3). Regulation of interest rates facilitates efficient management of household portfolios and changes the income velocity of circulation. The author attempts to contrast an economy equipped only with direct finance and an economy which only uses indirect finance (Ch. 4).

Part II of this book is devoted to a survey of studies in monetary and macroeconomic performance of the Japanese economy. The author starts with the overall view of the experience with the overall view of the experience with Japanese inflation after the first and

second oil crisis in the international context, sketches the debate on inflation in Japan, and describes the failures and successes in containing inflationary pressure (Ch. 5). He then proceeds to examine various empirical analyses of the relationship between the paths of money, price, and output in Japan (Ch. 6). Here, the reader will find the influence of new developments in macroeconomics such as the rational expectations hypothesis and time-series analysis. Dr. Suzuki and economists in the research institute in the Bank of Japan have experimented with new methods whenever available and wherever applicable, and they have naturally extended their scope to the determination of exchange rates (Ch. 7). Finally, he describes the shift of the intermediate target from interest rates to monetary aggregates, which was symbolized by the announcement of the forecast of M2 beginning in the third quarter of 1978. The operating variable has throughout been the interbank interest rate (Ch. 8). One of his conclusions is, "Japan has been less monetarist in rhetoric than either the United States or Great Britain, but far more monetarist in practice" (p. xiv).

I highly welcome the appearance of the English version of this book for at least two reasons. First, it should update the understanding of the contemporary Japanese monetary system by English speaking readers. Many students of Japanese economy and society are prone to stereotyped views based on the description of the system at a prior period. Just as watchers of Japanese movies may include samurai and ninja, in their image of contemporary Japan, so students may believe Japanese financial market to be characterized by rigid interest rates and quantitative controls. This book is an effective antidote to such misconceptions.

Second, Part II provides several interesting examples for the comparative study of macroeconomic performance between Japan and other industrialized countries. It is interesting to see, in many if not in all cases, that the methodology employed to test a certain hypothesis possesses a kind of robustness in such a way that it may test a similar hypothesis in another country.

Needless to say, there are many questions we would like to ask that are left unanswered in this book. The author treats financial innovation as a process of the evolution of institutions

adapting to economic needs. May we neglect, however, the importance of individual or group political actors who are motivated by the benefits and costs of institutional changes? The shift of deposits to postal savings accounts provides an example of the importance of political interactions. The author admits the failure of monetary control during the first oil crisis, but he talks little about the role and the interaction among those who make economic policy. It may be difficult for an insider to criticize the failure of policy makers including the Bank of Japan. Still is it not possible to evaluate the success or the failure of each policy action beyond relating public debt to "financial socialism" (p. 17)? Also it is not easy to grasp the author's fundamental frame of reference because quite a few different methodologies and theoretical frameworks are used or surveyed. Is it correct to conclude that Dr. Suzuki is more monetarist in spirit than in analysis? In any case, it would have been better if the author had provided an integrated framework within which the many approaches used in Part II could be located.

Despite these comments, I would like to congratulate the author for contributing an important monograph for an international audience. Robert Feldman, the author of another book *Japanese Financial Markets* (Cambridge, MA; MIT Press, 1986), has provided an excellent translation that leans more toward the rigorous conversion of the original Japanese than toward idiomatic English.

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320 FISCAL THEORY AND POLICY; PUBLIC FINANCE

United States taxes and tax policy. By DAVID G. DAVIES. Cambridge, New York and Sydney: Cambridge University Press, 1986. Pp. xiv, 316. \$34.50, cloth; \$10.95, paper. ISBN 0-521-30169-6. JEL 87-0139

Making sense of debates about tax policy is both difficult and important. This book is intended to help lay persons and students, especially advanced undergraduates, understand how the tax system works, what effects it has, and what should be done to change it.

Its range is broad. The book is divided into fourteen chapters, the first and last are on economic and tax policy broadly defined. Separate

chapters take up the personal income tax, the corporation income tax, the payroll tax, the value-added tax, the sales tax, state taxes, and local taxes. Additional chapters concern specific problems or issues: inflation, capital gains, distribution, and expenditure-versus-income taxation. As this list suggests, but does not fully reveal, certain topics are treated several times in different places. The book devotes considerable attention to a subject too often ignored, the administrative costs of taxation.

Unfortunately, the book fails in its principle objectives. It dwells at puzzling length on aspects of the tax system that no longer exist. Thus, it spends five and one-half pages on the issue of inflation-induced bracket creep in the personal income tax, a problem solved by legislation enacted in 1981. It spends several pages describing financial problems in social security solved in 1983. Seven pages are lavished on descriptions of value-added tax proposals advanced by former Senator Russell Long and former Representative Al Ullman, although neither was ever seriously considered.

The book surveys conflicting analyses of how the tax system affects the economy, but gives the reader little or no guidance on how to decide which of the arguments if any is valid. The chapter on the distribution of tax burdens illustrates the problem. This chapter is divided almost equally between descriptions of estimates of tax burdens by Joseph Pechman and Benjamin Okner on the one hand and by Edgar Browning and William Johnson on the other. Pechman and Okner present several estimates of the distribution of tax burdens based on alternative incidence assumptions, but none suggests a high degree of progressivity for the central eight deciles of the income distribution. Browning and Johnson, in contrast, find that the average tax rate of the ninth decile is more than three times that of the second.

In the face of such divergent findings, the nonspecialist reader is entitled to a discussion of why the results differ so widely, which procedures are preferable, and an appraisal of the entire technique of making empirical incidence estimates. What this book provides is two sentences on the source of the differences, and no evaluation of the relative merits of each set of estimates (other than the comment that the Pechman-Okner study is the "most ambitious

tax incidence study of any country" and that the Browning-Johnson study is "more recent"). The book places proper stress on one of the shortcomings of empirical incidence studies based on annual survey data (the fact that payroll, sales, and some other taxes are related more closely to permanent than to annual income and hence that studies based on annual data overstate the regressivity of such taxes), but it pays no attention to other arguably more important issues, such as the failure of these studies to take into account the effect of taxes on pretax incomes.

Here and elsewhere, the book summarizes conflicting empirical results of the current tax system and policy recommendations on changing it. Readers are made aware that economists reach different conclusions, and the author leaves them in no doubt where he stands. But they are given no understanding of the analytical structure of the debate and hence no independent capacity to form judgments.

A final problem is that the book has been rendered obsolete by events. Part of the problem lies at the doorstep of the author and the publishers. Although the book was published in 1986, the bulk of the chapter on social security is devoted to financial problems that were largely solved in 1983 and the book makes no reference to the tax reform debate, which began in 1984. The enactment of the Tax Reform Act of 1986 makes much of the descriptive material on the personal and corporation income taxes of only historical interest.

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Analyzing redistribution policies: A study using Australian data. By NANAK KAKWANI. Cambridge, New York and Sydney: Cambridge University Press, 1986. Pp. ix, 293. \$47.50. ISBN 0-521-30838-0. JEL 87-0142

This book offers a comprehensive quantitative study of income distribution and redistribution in Australia disaggregated by socioeconomic and geographical attributes such as sex, age, country of birth, employment, marital status and geographical location. The economic unit is the household; hence, the socioeconomic attributes considered are those of the household head. The data source is the 1975-76 Household Expenditure Survey. Some comparative

analyses are made with other studies of Australian income distribution based on the 1966-68 Survey of Consumer Finances and Expenditures, and the income surveys conducted by the Australian Bureau of Statistics in 1968-69, 1973-74 and 1978-79.

The first part of the book presents a thorough discussion of the conceptual problems encountered when dealing with the measurement of income distribution, inequality and welfare. It is a balanced appraisal of the pros and cons of the choice of individual, family or household as the income and expenditure unit. The author also discusses another contentious issue, i.e., the choice of the time unit of measurement. At this point, it becomes clear that the optimal time length is not invariant with respect to the choice of the income unit. The author makes a cogent comment on the limitations of the life cycle as the time unit over which income should be measured.

Given the choice of the household income unit, the book discusses the household-equivalent scales used in Australia and explains the one used to account for the demographic structure of this income unit.

The second part deals with some of the basic issues in the measurement of income inequality, redistribution, and equity. It presents a compact review of a selection of income inequality measures and their corresponding equity and welfare interpretations. This reviewer disagrees with some observations and interpretations of the Gini index taken uncritically from the income distribution literature of the last sixteen years. On page 65, the author states that the "Gini index attaches more weight to transfers near the mode of the distribution than at the tails," and on page 71 he adds that the Gini index "is extremely insensitive to redistribution of income at the lower end of the distribution." The former claim originates in an unwarranted extension to the continuous of a theorem deduced by Gini for a finite set of income units with different income levels. The latter stems from a misplaced interpretation of a well-known property of the Gini index, i.e., given the size and the mean income of a population, an income unit transferred from a richer to a poorer member, without changing the income rank of the population, reduces the inequality in proportion to the number of eco-

nomic units with income in between these two members.

Contrary to what would be expected a priori, the asset and net worth shares of the lower income intervals in the 1966-68 Australian Survey of Consumer Finance and Expenditures (Tables 3.4 and 3.5) are higher than their corresponding income shares. Besides, the asset share of the open-ended income interval is also higher than the income share. This is an invitation to carry on a thorough inquiry in search of a meaningful explanation.

The third part presents a detailed quantitative estimate and analysis of Australian household income distribution. It deals with the following income concepts: (1) original income; (2) gross income (original income plus government cash benefits); and (3) disposable income (gross income minus income tax paid). For each one of these the author calculates several measures of income inequality. He also calculates an index of the progressivity of government taxes and transfer payments.

This reviewer disagrees with the assumptions underlying the author's policy conclusions. For example, observing that the Australian data do not support the proposition that the share of employment income decreases with income, the author states that "it would appear, then, that any policy that increases the labor share of the functional distribution may increase rather than decrease the inequality of total household income" (p. 83). The labor share is an endogenous macroeconomic variable mainly determined by institutional structures, economic growth and modernization. These determinants, together with educational and financial structures and investment in R&D, condition the stock and composition of human resources and assets, and consequently the level of income inequality. In an open economy, redistributive policies of taxation and transfers have a limited impact on inequality.

The fourth and last part of this book deals with the measurement of welfare and poverty. The author follows the innovative path opened by Amartya Sen's axiomatic approach (Sen 1974) to the measurement of social welfare, enriched with the author's own past contributions. Social welfare is measured as a function of a nonseparable household utility function, a welcome departure from the utilitarian approach that

works with identical household utility function. Sen's and Kakwani's contributions purport to capture the sense of deprivation resulting from an economic unit's awareness of the number of those units with higher income (Sen's approach) or their corresponding income (Kakwani's approach). Given past discussions of the Gini index' implied social welfare, it is highly relevant to observe that both approaches lead to the derivation of a measure of social welfare that is a strictly decreasing function of the Gini index. This is an exceptional property of this index that is absent in other alternative measures of income inequality.

The author's welfare function is applied to estimate Australian social welfare corresponding to the 1975-76 distribution of original, gross, and disposable income, respectively. These estimates are disaggregated by quintile shares. The first quintile and sometimes the second quintile present negative social welfare estimates for the two positive (0.5 and 1) values of the parameter accounting for the household sense of deprivation arising from his interpersonal income comparison. These negative social welfare estimates call for a socioeconomic interpretation.

This book contains an exhaustive quantitative study of the 1975-76 Australian household income distribution. It surely provides the most detailed investigation of the Australian tax-transfer system so far attempted. It will become a standard reference for applied economic research on income distribution and some of its methodological discussions will stimulate further theoretical inquiry.

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The rich, the poor, and the taxes they pay.
By JOSEPH A. PECHMAN. Boulder, CO: Westview Press, 1986. Pp. xvi, 317. \$40.00. ISBN 0-8133-0376-1. JEL 87-0471

By almost any standard, the Tax Reform Act of 1986 must be ranked as one of the most sweeping changes in the American income tax since the introduction of the tax in 1913. As

remarkable as the political coalition that made the Act possible was the collection of strange bedfellows that provided the intellectual rationale for reform. On the one side were conservative supply-siders pushing low marginal tax rates and on the other a group of liberals who supported broadening the income tax base. Most prominent among the latter group was Joseph Pechman, a tax expert who for over two decades has deftly balanced the roles of scholar and Washington insider.

This is a collection of articles and papers published by Pechman over the past twenty years, some in collaboration with others. The first two articles summarize his findings regarding the incidence of taxes in the U.S. using a data set combining tax return information with Census household surveys. The heart of the volume is composed of 11 articles on comprehensive income taxation and major structural issues in income tax design. Articles follow on revenue sharing, the negative income tax, and social security. The last three articles present comparative information on the tax systems of other industrialized countries. Although there is some repetition, there is remarkably little overlap. For some purposes, such as some tax policy courses, this book may well dominate Pechman's *Federal Tax Policy*, since it combines the structural discussion in that volume with useful material on incidence and foreign tax systems.

Pechman's most important contribution to positive analysis in this volume is the calculations of the distribution of tax burdens by income class. If one accepts the Harberger view that the corporation income tax is borne by owners of capital, his calculations imply that the U.S. tax system as a whole is slightly progressive. Alternative incidence assumptions make some difference, but not much. In the last 20 years the tax system has become more regressive due to increased reliance on payroll taxes and the declining importance of corporate taxation, a trend that he notes in other developed countries as well. In contrast, transfer payments are decidedly pro-poor in distributional impact.

A second of Pechman's lasting contributions to positive analysis is his analysis of the impact on effective tax rates of departures from a comprehensive tax base. He captures this impact in one of the memorable graphs of tax analysis—

a hill of increasing rates whose steepness is eroded by numerous exclusions, exemptions, deductions, and credits. The inevitable result is that the income tax is not nearly so progressive as the statutory rate schedules would suggest.

However, Pechman does not stop at positive analysis. He is an unabashed advocate of base broadening and progressivity. The very term "erosion" of the tax base is pejorative, suggesting the illegitimacy of exclusions and deductions, but it has become standard public finance terminology. True to the tradition of Stanley Surrey and Richard Musgrave, Pechman is as uncompromising in his criticism of tax incentives as he is in his condemnation of reliance on regressive taxes such as the payroll tax. Reflecting on the lack of progression in the tax system, he states,

It may be that, at some distant future date, the rich will have enough income to satisfy not only their own needs, but also to help relieve the tax burdens of those who are less fortunate. In the meantime, the tax system will continue to disgrace the most affluent nation in the world. (p. 29)

One is tempted to read any collection of this sort as a kind of intellectual autobiography, revealing fixed convictions as well as changes of heart. For the most part this volume reveals a dogged consistency in attention to structure and incidence. For example, Pechman repeatedly criticizes departures from economic income in the form of abbreviated useful asset lives and the exclusion of state and local bond interest, income from IRAs, and fringe benefits.

If there are shifts in emphasis, one may be an increased emphasis in Pechman's later work on simplicity itself as an objective in tax reform. There also appears to be less patience with "subsidy-type" deductions, such as the charitable deduction, whose main objective is to encourage certain kinds of behavior. The only personal deductions for which he expresses much sympathy are those for unusual or unavoidable expenses such as medical care, and even then he favors large floors to limit revenue loss. But by 1984 he seems to have become a hard-liner: "Every item removed from the tax base reduces revenue and probably makes the income tax less fair" (p. 59).

The final section on foreign tax systems pro-

vides fascinating comparative material for students of the American tax system. We find, for example, that the Japanese tax system epitomizes some of the worst sins in the Pechman canon—rampant tax incentives, resulting in base erosion significantly more pronounced than in the U.S. He also provides a careful comparison of effective tax rates in Britain and the U.S.

One occupational hazard in Pechman's line of work is the danger of becoming outdated as soon as the tax law changes. In this case Pechman appears to be the victim of his own effectiveness in making the case for fundamental tax reform. Because the book was published in 1986 there is no mention of any of the sweeping changes brought about in the 1986 law—thus the volume takes on, more than it might otherwise, the character of historical manuscript rather than current policy analysis. One wishes to see Pechman's assessment of the new law, although one can infer what it might be. For example, the continued nontaxation of capital gains at death remains an important deficiency of the tax law. Fortunately, analytical work from this scholar continues to come forth unabated, so we need not treat this volume as his last word.

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Studies in state and local public finance. Edited by HARVEY S. ROSEN. National Bureau of Economic Research Project Report series: Chicago and London: University of Chicago Press. Pp. viii, 236. ISBN 0-226-72621-5.
JEL 87-0149

In the past decade there has been a resurgence of attention among public finance economists to the political economy of federalism. This renewed interest has coincided with two sets of events. The first is the Reagan Administration's New Federalism program, whose focus has been the shift of responsibility for public programs from the federal to state and local governments. The second is the emphasis in the public finance literature of the 1980s on the application of competitive market models to the study of the behavior of "competitive" local governments. The current emphasis is in marked contrast to the focus on the federal government as a raiser of revenues in the public

finance literature of prior decades. Whether the current emphasis on decentralization and competition is appropriate is an important subject for academic debate, and one about which our empirical knowledge is quite spotty.

This volume makes an important contribution to our understanding about the state and local public sector. It includes six papers (and six brief comments) that were delivered at a National Bureau of Economic Research conference on state and local public finance in June, 1984. The conference was organized by Harvey S. Rosen, who was also responsible for editing the volume. The topics of the papers vary, and involve differing degrees of theoretical and empirical sophistication as well. But, when viewed in light of the larger set of work that the National Bureau has supported in the area of state and local public finance (through conferences and working papers), they add to our knowledge in a number of important ways.

The first paper, "Explaining the Yield Spread between Taxable and Tax-exempt Bonds: The Role of Expected Tax Policy," by James M. Poterba, represents a fine example of how finance theory can be combined with careful empirical analysis to yield interesting conclusions. Poterba examines the yield spread between long-term taxable and tax-exempt bonds, and concludes that the market is segmented, with different investor groups interested in long-term bonds, and others in short-term. The striking policy implication is that recent attacks on the growth of short-term borrowing by local governments have been inappropriately placed. Poterba's results may need to be reexamined in light of the major changes brought about by the Tax Reform Act of 1986, but the framework makes this a relatively straightforward effort.

The second paper, "An Empirical Examination of Municipal Financial Policy," by Roger H. Gordon and Joel Slemrod, is the most provocative and stimulating one in the book. Gordon and Slemrod find substantial support for the view that local governments have taken advantage of opportunities for arbitrage created by the fact that governments have the option of raising money by borrowing at the tax free rate of return, or by raising taxes which reduces private savings. At the same time, these governments can earn investment income at the tax-

ee rate. Despite the many legal restrictions at limit many governments' ability to arbitrage, Gordon and Slemrod show that relatively poor communities tend to rely more on bond financing than wealthy communities, a result that is consistent with their arbitrage theory. The next two papers look at the empirical applications of some particular state and local government policies. In "Property Taxes and Firm Location: Evidence from Proposition 13," Michelle J. White uses the natural experiment created by the passage of Proposition 13 in California to study business location decisions. She finds that property taxes play a significant role in the location of retailing and service firms, but not manufacturing firms. In "Welfare Effects of Marginal-Cost Taxation of Motor Freight Transportation: A Study of Infrastructure Pricing," Kenneth A. Small and Clifford Winston provide empirical evidence that suggests that the introduction of a nationwide program of marginal cost pricing for heavy highway vehicles will result in a major welfare gain. The paper by Daniel R. Feenberg and Harry S. Rosen, "State Personal Income and Sales Taxes, 1977-1983," utilizes some of the data that have been collected and analyzed as a part of the National Bureau's state and local public finance project. Feenberg and Rosen's paper shows the incredible heterogeneity in tax structures that exists among the fifty states. Whether it is due to what extent these differing structures are due to economic (as opposed to political and historical) motivations remains an interesting, largely unanswered question. In an excellent concluding paper, "Education, Welfare, and the 'New' Federalism: State Budgeting in a Federalist Public Economy," even G. Craig and Robert P. Inman develop a general analytic framework for evaluating the effect of federal grants on state and local governments. Unlike most earlier work which has been highly aggregative, Craig and Inman look intently at education, welfare, other expenditures, and revenues. The empirical portion of the paper provides strong support for the view that, if enacted, the New Federalism program will lead to reduced government spending on social programs such as welfare and education. All in all, the papers are of unusually high quality, as are the brief, but useful set of comments on each. With interesting and careful

empirical work in this area still an undervalued commodity, the editor and the authors should be commended for their valuable contributions.

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REFERENCE

- QUIGLEY, JOHN M. AND RUBINFELD, DANIEL L. "Budget Reform and the Theory of Fiscal Federalism," *Amer. Econ. Rev.*, May 1986, 76(2), pp. 132-37.

400 International Economics

430 BALANCE OF PAYMENTS; INTERNATIONAL FINANCE

Casino capitalism. By SUSAN STRANGE. Oxford and New York: Blackwell, 1986. Pp. vii, 207. \$24.95. ISBN 0-631-15026-9. JEL 87-0504

Ever since the relative tranquility of the fifties and the pre-Vietnam sixties was replaced by the turbulence of the seventies and eighties *Casino Capitalism* has been an apt label for advanced capitalist economies. When a position in a batch of principal-only mortgage securities can cost a firm as well disciplined as Merrill Lynch about a quarter of a billion dollars on literally the turn of a card, the economic order's resemblance to a gambling den becomes striking. Furthermore when exchange rates and financing terms emulate a yo-yo, as they have during the past fifteen years of floating exchange rates, with serious consequences for jobs, prices, asset values and investment, the gambling den is unsavory.

The flavor of concerns that should have been central to Strange's volume was captured by Keynes in a passage in *The General Theory* that is part of the currency of every economist:

Speculators may do no harm on a steady stream of enterprise. But the position is serious when enterprise becomes a bubble on a whirlpool of speculation. When the capital development of a country becomes a by-product of the activities of a casino, the job is likely to be ill done. (p. 159)

The implication of Keynes' comment, and therefore of the title that Strange appropriated, is that speculation and efficient investment—capital development—are inversely related.

It follows that a volume on *Casino Capitalism*

needs to begin with a serious consideration of the determinants of investment in capitalist economies with sophisticated and ever evolving financial structures. Although in the beginning of the book some awareness of the relation between speculation and efficient investment is evident, Strange does not examine closely how the capital development of capitalist economies was affected by the financial evolution of the past decades. What she does do is present in a discursive and somewhat journalistic fashion the development of the international financial structure in recent years as well as a partial review of some interpretations of the import of financial arrangements.

In spite of her approach the volume is useful. Economists, especially those who are comfortable wearing the blinders of neoclassical theory, tend to believe that the evolution of markets and institutions results mainly from the utility and profit seeking behavior of units. To this Strange offers the useful antidote that "a monetary system cannot work effectively unless there is a political authority . . ." (p. 25), i.e., contracts need to be enforced. Therefore the outcomes in both the short and the longer runs are the joint result of decisions by market participants and authorities. Furthermore, economic evolution leads to shifts in the balance of power between markets and states.

This insight helps explain how the Bretton Woods system broke down. The "chaos" that Strange now finds in the international monetary regime is imputed to key decisions and nondecisions, mainly by the United States, both early on in the postwar period and after 1971. Her main point is that domestic concerns dominated decisions in the United States both when the United States acted and when it did not. As a result havoc was played with the order needed for world economic stability.

I would have liked to report that Strange offers a coherent view of the evolutionary processes that have transformed (and continue to transform) the international economy since Bretton Woods, but I cannot. Her basic premise that evolution results from the interplay of market and authority is a unifying concept that is potentially powerful. This potential power is vitiated because Strange suffers from a common British addiction, which is to blame the United States for all that goes wrong, at the

same time never holding it responsible for things going well.

It is evident that the world's financial markets have become more fragile and the volatility of rates and instruments has increased. This combined with the irresponsibility and ignorance of governments has adversely affected many national economies. However there was nothing in U.S. economic policy or in the evolution of financial markets that determined that Mexican nationals would literally steal the nation's oil enterprise blind or that Argentina's junta would stash away billions.

The continuum between flight capital and portfolio diversification and the issues this raises is completely absent from Strange's analysis. The mess to which she continuously refers is in good part due to the attractiveness of assets in the United States for international portfolios; this was a factor in the disastrous run up of the dollar as the growth of trade literally forced the authorities to liberalize markets. Strange is not happy with fluctuating rates, but she does not examine the impact of portfolio choices upon exchange rates as a means of explaining why the fluctuations are far greater than the theoretical arguments had indicated. The impact on trade balances of the overvalued dollar that resulted from portfolio choices has reduced the United States to a hat-in-hand giant, dependent upon the favors of trading and investing partners.

Beggar my neighbor is a useful term that describes the behavior of economies that maintain domestic employment and profit levels by devices that depress profits and employment of their trading partners. Keynes' scheme, for a sterile international asset for settlement purposes that the banking authorities of countries with substantial international asset positions would have to accept if they persisted in maintaining surpluses, was an attempt to make beggar-my-neighbor policies obviously foolish. In today's global financial market nationals of countries that beggar the United States acquire dollar earning assets, so that such behavior seems to have a positive payoff and therefore is not obviously foolish.

Strange seems to despair of bringing order out of the chaos she sees. Because her view does not encompass portfolio choices she does not recognize that the task is easy in principle

though difficult in execution: order will replace turbulence when surplus economies that have substantial foreign assets, at present Germany and Japan, are forced by the international arrangements to become deficit countries on their trade accounts.

Professor Strange has been ill served by the lag between the time her thinking for this book was fixed and the time this review is being written, for her integrating premise that the United States is dominant is now obsolete. Nevertheless her message that an analytical system needs to integrate politics, institutions, authority and markets if it is to be useful in helping us understand how systems behave and evolve is valid and important. It survives the gaps in analysis, the chronic blaming of the United States, and even her exasperating errors. She was not well served by her editors: for example Frank H. Knight wrote *Risk, Uncertainty*, (not *Certainty*) and *Profit*, The New Deal's NRA was the National Recovery (not Rehabilitation) Administration, and Felix Royahntan is at Lazard Freres, not Salomon Brothers.

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600 Industrial Organization; Technological Change; Industry Studies

610 INDUSTRIAL ORGANIZATION AND PUBLIC POLICY

The bigness complex: Industry, labor, and government in the American economy. By WALTER ADAMS AND JAMES W. BROCK. New York: Pantheon Books, 1986. Pp. xiii, 426. \$22.95. ISBN 0-394-54721-7. JEL 87-Q525

In this lively but polemical book, Adams and Brock point to severe deficiencies in the economic performance of U.S. big business, and the issue with both right and left wing views of the appropriate public policy response. On what they refer to as the "Darwinian" perspective of the right, espoused by economists of the Chicago school and fervently embraced by the Reagan administration, government efforts to curb or reverse the growth of bigness are inevitably counterproductive, since attained size and power in free markets reflect superior economic efficiency. From the left or "socialist" point of view, the government

must play an active role in some sort of industrial policy, or tripartite *dirigisme* with industry and labor, to strengthen and revitalize the economy in response to the challenge of world competition.

According to Adams and Brock, both Darwinians and neoliberals make the same fatal errors in attributing the rise and continued predominance of big business in this country to its superior economic performance, and in accepting the corollary proposition that antitrust is an outmoded and harmful public policy concept.

To dispel the "quintessential myth . . . that industrial giantism is the handmaiden of economic efficiency and consumer welfare" (p. xii), Adams and Brock examine efficiency at three levels, considering first operating efficiency, or cost of producing a given product, then dynamic efficiency, or innovation in both products and manufacturing processes, and finally social efficiency, or the desirability of the combination of goods and services produced. The record of big business, they conclude, has been deficient at all three levels. Abysmal performances by the steel and automobile industries weigh heavily in their indictment.

The founding fathers' and Adam Smith's views on economic power and its political control are examined and found inadequate for today's needs, leading to a lengthy discussion of the crucial role of antitrust in promoting competition and controlling private business power. Existing law dealing with collusive conduct is considered effective, provided it is enforced rigorously. But the courts' emphasis on intent and the need to show conduct aimed at monopolizing are not fully consistent with the economic view of monopoly as a structural problem of market power. The law is quite ineffectual in dealing with oligopoly where overt collusion cannot be shown. Finally, antitrust has failed to halt a "general trend toward increased concentration" (p. 204) by merger, because of indifference by the Reagan administration, but more fundamentally because the need to show a lessening of competition or tendency toward monopoly in a narrowly defined relevant market hamstringing the law in an era of conglomerate merger.

Alternatives to antitrust are reviewed and found wanting. The authors note with approval

the deregulation of structurally competitive industries such as airlines and trucking in the wake of disillusioning experience with regulatory commissions. But they warn that while economic deregulation promises great benefits, social regulation to assure public health and safety in the face of market failures remains necessary. Governmental support of big business through such devices as import quotas, subsidization, and bailouts of large firms in financial distress is almost always rationalized by contending that the weakening or collapse of a major industry or large firm would lead to increased unemployment, deterioration of the balance of payments, a weakening of national defense, or some other harm to the public. But in every instance discussed the benefit was found to have redounded to private rather than public interests. Confrontation between two economically powerful entities, such as big unions bargaining with big firms, or major contractors negotiating with Defense Department officials, is found to lead to coalescence of power rather than to Galbraithian countervailing, to the detriment of the consuming or taxpaying public.

The authors conclude with a set of "illustrative rather than exhaustive" policy recommendations in the areas of mergers and takeovers, foreign competition, deregulation, the wage-price spiral, defense contracting, and public bailouts, all designed to promote economic decentralization and all "integrally linked with antitrust as mutually reinforcing elements" (p. 378).

This book is and deserves to be evaluated as an essay in advocacy, aimed at a far wider audience than readers of the *Journal of Economic Literature*. For economists, however, it is unduly long on argumentation and horror-story anecdotes and corresponding short on balanced analysis.

Members of the Chicago school who have defended big business and supported current corporate takeover tactics are depicted as seeing "no need to examine the facts or amass voluminous evidence. . . . Logic indicates that it must be so. No need to investigate further" (p. xii). Notably ignored in this depiction are Harold Demsetz's and Sam Peltzman's striking but controversial empirical analyses of productive and innovative efficiency and the varied

supportive and contradictory findings of subsequent studies, as well as a number of investigations of the effects of takeovers on subsequent market performance of the firms' common stocks and thus of the social efficacy of the market for takeovers originally posited by Henry Manne.

Virtually all recent industrial organization work is ignored. Because of an "overemphasis on the mathematical-econometrics approach," Adams and Brock assert, the current breed of economists, regardless of school or persuasion, "have tended to ask themselves questions that can be analyzed with their new techniques. . . . They play games they find amusing, rather than contemplate issues that are crucial and pressing" (p. 14). The "new" industrial organization of the past decade, with its penetrating critiques of both the Darwinian and the neoliberal views, is thus dismissed, as are the varied findings of a number of sophisticated econometric studies drawing on data from the Federal Trade Commission's recently discontinued Line of Business Program.

In sum, economists currently working in the field of industrial organization—including, ironically, those who share the authors' concerns and support their policy prescriptions—take a bit of a bum rap in this book.

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Who profits? Winners, losers, and government regulation. By ROBERT A. LEONE. New York: Basic Books, 1986. Pp. xiii, 248. \$17.95. ISBN 0-465-09183-0. JEL 86-1181

This lucid book has an ambitious goal: "to show how an understanding of the competitive effects of government policy can contribute both to better decision making in the private sector and to wiser public policy" (p. 5). Toward this end, fully half of the book illustrates the ways in which regulatory policies affect the competitive positions of firms in an industry. Understanding the often complicated consequences of governmental policies can contribute to the success of firms in competitive industries. Understanding these consequences and the reaction of sophisticated firms also enables public sector managers to formulate appropriate and successful policies. The remainder of the

book is dedicated to exploring the processes of policy formation. Understanding the determinants of regulatory policies may provide firms with important opportunities to structure their competitive environments.

The motivations for this endeavor are clear. Government regulation plays an important role in determining the fortunes of contemporary commercial enterprises. Recognizing this role can be quite valuable to a firm contemplating an important decision, such as locating a plant, selecting among production technologies that vary in the proportion of fixed to variable costs, or augmenting or retiring capacity. Moreover, it is abundantly clear that regulatory policies are not formulated or implemented in a vacuum. Processes of policy formation and implementation can present important strategic opportunities to firms. Acknowledging that firms have a legitimate and potentially constructive role to play in these processes may also help policy makers achieve their goals.

The methodological foundations for understanding how government affects business are reflected in the postulate of the "iron law." The iron law states that "every act of government, no matter what its broader merits or demerits for society at large, creates winners and losers within the competitive sector of the economy" (p. 3). This postulate is illustrated repeatedly with reference to the actual, and often surprising, consequences of regulations. These references are taken from materials used by Professor Leone and others in teaching what might be referred to as "Public Sector Strategies" courses at Harvard's Kennedy School of Government and the Graduate School of Business Administration. Most of these cases are quite rich and provide useful reading for almost any practitioner or scholar interested in the effects of government on business. Recognizing the existence of the iron law is a prerequisite for effective private sector strategies when government matters.

Understanding that the iron law holds is, of course, not sufficient for successful private or public sector planning. One must also know how government regulation matters: consequently, the next four chapters of the book identify the ways in which it affects the competitive positions of firms. Chapter Three presents

an extremely cogent overview, with explicit references, of the variety of ways regulation affects costs. This chapter also illustrates the folly of the corporate strategy of reflexively opposing all proposed regulations. In some cases, regulation may serve to overcome coordination problems among firms in the adoption of less costly production technologies. Leone offers the fluorocarbon ban as an example. In other cases it may affect firms' costs differentially, altering their relative competitive positions. Thus, public sector activities can provide important strategic opportunities to firms whose private sector decisions have been less than successful. This chapter also lays the foundation for the policy analysis of the later half of the book by illustrating that the way such regulations generate "winners" and "losers" is likely to have some bearing on the political support for them.

Chapters Four and Five are particularly useful for private sector managers contemplating the effects of regulation (or potential regulation) on their competitive positions. These chapters illustrate quite vividly how these effects are dependent upon the cost structures and the capacity decisions of the firm. The importance of knowing about potential government behavior when making such decisions is made clear. Chapter Six summarizes the analysis of Chapters One through Five with implications for the development of corporate strategy when public policy matters. The lessons are developed within the context of a case study of the behavior of major domestic automobile manufacturers in two important policy areas: the congressionally mandated corporate average fuel economy (CAFE) standards and voluntary import restraints.

The second half of the book, beginning with Chapter Seven, presents a "model" of the governmental (political and regulatory) process as applied to competitive markets. This model consists of a series of aphorisms most of which are illustrated by anecdote. For instance, to paraphrase the author, the policy process thinks in terms of distributional (wealth) consequences. Tangible losses count more than potential gains. Political actors are sometimes more concerned with the process of regulatory intervention than its outcome. Bureaucratic institutions are, in contrast to private institutions,

organized in a bottom-up fashion where many of the decision-making powers reside in the technically proficient career civil service professionals. The sequential nature of policy formation is salient. Many political actors are myopic and risk-averse. And private sector managers themselves may have an inordinate preference for status quo regulatory policies (Ch. 7). These generalizations, while most assuredly unsettling to those who study political processes on a full-time basis, may prove helpful to those with less experience or interest in the American governmental system.

Chapters Eight through Ten utilize the political model developed in Chapter Seven to illustrate sensible, and not so sensible, ways in which private sector managers can participate in the economic policy process. Chapter Eight contains the *don'ts* of corporate participation in the policy formation process. For instance, responses to regulatory proposals tend too often to be ideological, technocratic (failing to recognize the political determinants of the regulatory process), reactive and ad hoc. These reactions also frequently fail to consider the differential effects that regulations may have on firms in the same industry (often working to some firms' advantage) and fail to recognize that the regulatory process and its demands are constant fixtures of any firm's operating environment and will remain long after contemporary regulatory exigencies diminish. Chapters Nine and Ten develop, once again by explicit reference to particular cases and examples, the *dos* of corporate participation in the policy process. Since these are the obverse of the *don'ts*, I will not bother to recount them here. Chapters Eleven and Twelve provide a summary of the book's lessons aimed at public and private sector managers, respectively.

This book provides an illuminating introduction to the interactions of government and business and is especially aimed at novitiates (undergraduates or MBAs) or casual observers (the business press) of this process. I would strongly recommend it to such readers. It is too general, however, to be of practical value to players in this complex arena or to researchers in the politics and economics of regulation. This is particularly true when considering the political prescriptions contained in the later chapters. However, Professor Leone has provided a co-

gent illustration of the complex relationships between government and business in the modern American economy.

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630 INDUSTRY STUDIES

The changing structure of the U.S. economy: Lessons from the steel industry. By ZOLTÁN J. ÁCS. Foreword by CHARLES P. KINDLEBERGER. New York; Eastbourne, Eng.; Toronto and Sydney: Greenwood Press, Praeger, 1984. Pp. xvii, 246. \$39.95. ISBN 0-03-001092-6. JEL 86-1191

The steel industry has often been the favorite choice of economists looking for an example of concentrated structure, administered pricing, and lagging innovative performance. Until recently, the industry exhibited all these characteristics. From the turn of the century until the mid-1960s, competition was almost absent from the American steel market. When challenged by imports, the big steel producers bought time by means of successful protectionist campaigns. Such lobbying required political support from the United Steelworkers Union and, to achieve this, managers were obliged to offer generous labor contracts and avoid mass layoffs associated with the shutdown of obsolete plants. As a consequence, the companies' competitive position deteriorated further during the 1970s.

The combination of import restraints and high production costs of the established producers facilitated the entry of new domestic competitors into the steel market, the so-called minimills. These firms, which made their first sporadic appearance in the late 1950s, melt scrap in electric furnaces. In contrast, the big "integrated" producers smelt iron ore in huge blast furnaces (at least in their principal plants). The small efficient scale of the minimills makes for easy entry. However, due to the large optimal size of hot strip mills, the small steel companies are confined to the production of bars, rods, and light structurals and unable to enter the much larger market for sheet products (although a breakthrough is now on the horizon).

The minimill invasion of selected steel markets rarely ensued in a competitive battle; for the most part, the big mills simply retreated.

Book Reviews

focusing their attention instead on the nation's capital and their two main preoccupations, import restraints and tax relief.

Professor Ács chose this encounter between a young competitive "flexprice" sector and a rather stodgy corporate "fixprice" sector as a model for deriving more general insights into the ongoing structural transformation of the American economy. In the first part of his book he cements his analysis with a heavy dose of theory by drawing on the writing of such authors as Marshall, Kalecki, Berle, Means, Mills, Scitovsky, Sylos-Labini, Bain, Baumol, Simon, Williamson, Marris, Eichner, and Dirlam, Kaplan, and Lanzilotti. He concludes that the fixprice policy of large corporations is primarily a function of long-run costs and investment needs and that, due to the absence of a mechanism for periodic rejuvenation, the corporate sector is vulnerable to attack by the younger firms of the competitive sector.

Part Two begins with a detailed description of the two major segments of the American steel industry, i.e., integrated producers and minimills. This is followed by an analysis of the integrated firms' policies with respect to prices, dividend payout, diversification, and investments. Professor Ács finds that steel prices are rigid in the short run and "seem to move with long-run normal costs, with labor costs being more significant than raw material costs" (p. 122). He also corroborates the view, held by many observers of the steel industry, that there was no basis for the persistent complaints of steel company executives concerning lack of investment funds for plant modernization.

In the third and final part of the book, the author discusses the circumstances surrounding the presumed decline of the entire corporate sector of the United States and suggests measures to transfer resources, especially labor and capital, from the corporate to the competitive sector. Among his specific recommendations are income support and retraining of displaced workers (with greater participation by local governments), abolition of the corporate income tax, and more bank loans to medium and small enterprises. He disapproves of the use of trade restraints and "industrial policies" for the purpose of preserving or stimulating domestic industries. In passing, he dispenses harsh criticisms for the various economic policies of past

Democratic administrations and mostly praise for the policies of the present administration.

Are there lessons to be learned from the steel industry? Certainly, the industry is not so unique that no parallels can be drawn with other industries. For instance, its history demonstrates that prolonged absence of competitive pressures severely impaired the ability of managers to react to changes on both the demand and supply side of the market. Another lesson is that inefficiency in a basic industry has a broader impact on the economy than inefficiency in a consumer goods industry. Thus, in the case of steel, it resulted in hardship for many customer industries. Fabricators and manufacturers saw their international competitiveness deteriorate because their foreign rivals were able to buy cheaper and often better steel. Eventually, many American companies were compelled to quit making certain steel-containing components and import them instead or to move entire production units abroad.

The author's "lessons," enumerated in the introduction, are rather disappointing, in addition to being flawed. The steel industry did not lose its international competitiveness in the 1970s but two decades earlier; minimills do not generally employ more "high" technology than integrated producers; the market share of minimills in 1984 was not 40 percent but approximately 16 percent; this is not the first time in 100 years that small steel firms have been able to compete with large ones (small specialty steel producers have done so for many years); large size is still a significant advantage (as in producing sheet products); and no policies have recently been suggested to expand the steel industry. The only valid lesson in the list is that, in a shrinking market, government assistance can do little to stem the decline of an industry.

In view of the dramatic improvements in efficiency that have been achieved by the integrated firms since 1981, one might also take issue with the author's conclusion, already referred to, that the corporate sector lacks a mechanism for rejuvenation. The mechanism that set off those drastic cost-cutting efforts was intensified competition (which, moreover, coincided with sharply falling demand). Suddenly, in a period when import protection had been temporarily removed, the integrated producers were able to do many of the things which they

had previously maintained were not feasible, as, e.g., the restructuring of their untidy empires (via wholesale elimination of obsolete capacity and unprofitable product lines), pressure on the labor union to make concessions concerning wages, fringe benefits, and work rules, as well as the accelerated adoption of modern technology. The fact that costs were reduced by about 15 percent within three years and that, nevertheless, prices frequently fell far below production costs during this period also casts doubt on the author's previously mentioned dictum regarding the inflexible behavior of steel prices and their relation to "normal" costs.

In addition, the author is wrong when he implies that investments by the steel industry were inadequate to maintain modern facilities. Because of this presumed shortage of investment funds, he suggests that the flow of investments could have been increased by raising prices in the 1960s (an odd suggestion given the competitive situation at the time) or by means of suspending dividend payments and diversification programs. The problem, however, was not lack of investment funds but poor investment decisions. From 1960 to 1980, American steel producers invested considerably more, per ton of capacity added or replaced, than their Japanese rivals. Unfortunately, their insistence on nursing along many marginal installations and scattering their funds over an excessive number of duplicate facilities yielded very low capital efficiency. They spent a lot of money and had little to show for it in terms of internationally competitive plants.

Despite its blemishes, the book has merits. Professor Ács often demonstrates a great deal of resourcefulness in his attempt to develop a theoretical interpretation of recent institutional and organizational changes affecting the American manufacturing sector.

HANS MUELLER

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700 Agriculture; Natural Resources

710 AGRICULTURE

Agricultural household models: Extensions, applications, and policy. Edited by Inderjit Singh, Lyn Squire and John Strauss. Baltimore and London: Johns Hopkins University Press for the World Bank, 1986. Pp. xi, 355. ISBN 0-8018-3149-0. JEL 87-0256

The papers presented in this volume examine a variety of interesting issues related to agricultural household behavior. They cover topics such as the impact of agricultural pricing policy on nutritional status, the effect of yield risk on consumption and labor supply, and the effects of price changes on income distribution and foreign exchange earnings. Together they provide an indication of how far agricultural household models have come, and also an indication of what areas require further research.

The volume is divided into two sections. The first provides an overview of the relevant theoretical, empirical and policy issues. It consists of two chapters written by the editors and an appendix written by John Strauss. The first chapter sets out a simple model of agricultural household behavior, which is elaborated upon and extended in Strauss' appendix. The model is used to demonstrate the fact that household production and consumption decisions can be treated recursively if markets are complete, households are price-takers and commodities are homogeneous. Specifically, production decisions will be made independently of consumption and leisure decisions; consumption and leisure decisions will be affected by production decisions through the effect of farm profits on income. The chapter also provides brief reviews of estimation issues, empirical results and possible extensions of the simple model. The second chapter presents a discussion of several methodological issues, including the validity of the recursive model, problems associated with mul-

market analysis and data requirements for the estimation of agricultural household models.

The second section contains nine case studies that cover a diverse set of topics and use data from a wide range of countries. Each case study represents an extension of the simple model developed in the first section. The first paper in the second section, by Inderjit Singh and Akram Subramanian, extends the basic model to allow for more than one crop, and uses linear programming models to characterize the production side of the model. The next paper, by Strauss, uses data from Sierra Leone to estimate a recursive model of farm production and consumption. Strauss' goal is to trace the effects of changes in prices and technology on household nutrition levels.

Mark Pitt and Mark Rosenzweig follow with an extremely good study of the effects of food price changes and health program interventions on the health and profits of Indonesian farmers. They incorporate a household health production sector into a basic agricultural household model, and investigate the relationships between consumption and health and between health and profits. They find that although the health of farmers significantly affects the amount of labor supplied, health does not appear to affect farm profits. This implies that either markets are well-functioning, and prices provide support for the use of a recursive model. The next chapter, by Farrukh Iqbal, is one of only two in this volume which consider the intertemporal decisions of agricultural households. Iqbal estimates interest rate and borrowing equations for agricultural households in India.

Because he assumes that interest rates will depend on household characteristics and on household size, the recursive nature of the basic model must be abandoned. His results suggest that borrowing demand may be fairly responsive to interest rate changes.

The next two papers attempt to incorporate general equilibrium considerations into the standard model. Victor Smith and John Strauss use microsimulation to examine the effects of product price changes and wage changes induced by product price changes on production, consumption and total calorie consumption. In a paper by Avishay Braverman and Jeffrey Hammer explicitly includes general equilibrium effects. Paying careful attention to data

and computational requirements, they construct a simple general equilibrium model of a multimarket agricultural sector. Estimates of the model (based on Senegalese data) are used to simulate the effects of changes in product and input prices on such things as the distribution of income across regions, agricultural production, and foreign exchange earnings.

The final three papers deal with a grab bag of interesting topics. Terry Roe and Theodore Graham-Tomasi incorporate production risk into a dynamic agricultural household model. Terry Sicular extends the basic household model to examine the production decisions of Chinese farm collectives given the presence of state-imposed quotas and restrictions. Ramon Lopez develops a model which is not recursive because family farm members are assumed to value on-farm and off-farm work differently. He uses Canadian data to test whether a recursive model is valid, and concludes that it is not.

Because this volume contains such a diverse set of studies, anyone interested in this area of economics is sure to find value in at least some of the material presented. It should be noted, however, that the level of quality and degree of sophistication vary considerably across chapters. For example, some authors painstakingly present very simple microeconomic concepts; others present very little discussion of the techniques used for quantitative analysis. Some authors present extremely good information about their data; others provide very little information, making the results difficult to assess. Although this volume contains a lot of useful and interesting information, one will probably want to read some chapters carefully and skim over others, depending on one's interests.

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The minimum wage in the restaurant industry.

By WILLIAM T. ALPERT. New York and London: Praeger, 1986. Pp. xiv, 161. ISBN 0-275-92085-2. JEL 87-0275

The impact and desirability of maintaining a legal minimum wage has been, and will un-

doubtedly continue to be, a widely debated topic for economists and policy makers alike. Restaurant employees were not covered by the minimum wage in the U.S. until 1967, and frequent expansions in coverage and increases in the level of the statutory minimum provide important variation for researchers to exploit. Furthermore, given the low level of wages in the industry it is likely that the minimum wage is a binding constraint for many restaurants. In this short book, William Alpert adds to the voluminous scholarly research on the minimum wage by attempting to identify and quantify its effects on the restaurant industry.

The first five chapters draw largely from secondary sources to review the legislative history of the minimum wage as it applies to the restaurant industry, outline the rapidly changing institutional and demographic features of the industry, and depict the structure of compensation of restaurant employees. This material paves the way for the theoretical and empirical examination of the effects of the minimum wage that is presented in Chapters Six and Seven.

Importantly, Alpert documents that the restaurant industry is in a state of flux. Between 1967 and 1978 the industry added almost two million employees, becoming the largest employer among two-digit industries. Any disemployment effects of the minimum wage must therefore have affected the growth of the industry. Furthermore, this time period witnessed unprecedented growth in chain restaurants and a concomitant decline in traditional restaurants. Changes in the industry structure were accompanied by changes in the demographic composition of restaurant employees: restaurant employees have become increasingly more female, younger and more likely to work part-time hours. Given the rapid changes and new developments in the industry, it is unfortunate that Alpert's research primarily pertains to years prior to 1979.

The theoretical basis for the study is quite simple. The imposition of a minimum wage above the market clearing level gives cost minimizing employers an incentive to substitute capital for labor, substitute skilled labor for less skilled labor, scale back the size of the restaurant, reduce nonwage compensation, and implement new labor saving technology which might lead to an increase or decrease in the

skill level of employees. Of course, employers can also fail to comply with the law since the penalty for noncompliance is minimal. Following the technique developed by Orley Ashenfelter and Robert Smith (1979), Alpert estimates that approximately 45 percent of covered employees who were earning less than the minimum wage continued to earn a subminimum wage after the law was enacted. Noncompliance is widespread.

Unlike most previous studies of the impact of the minimum wage which narrowly focus on economy-wide employment effects for younger workers, Alpert's study has the virtue of addressing a multitude of avenues in which the minimum wage can influence a narrowly defined industry. He relies almost exclusively on quarterly time series data to estimate the impact of the minimum wage on employment, fringe benefits, wage dispersion, the wage level, restaurant failures, productivity and sales. The major findings are: 1) an increase in the minimum wage has a statistically insignificant effect on most fringe benefits; 2) an increase in the minimum wage is associated with a decline in employment, although I find it interesting that the employment-minimum wage elasticity that Alpert finds for the restaurant industry is substantially smaller than is generally found for the economy as a whole (for a survey see Brown, Gilroy and Kohen 1983); 3) the minimum wage has reduced wage dispersion in the restaurant industry somewhat and increased the level of wages.

In what I consider the weakest section of the book, Alpert attempts to estimate the total amount of restaurant employment that was foregone due to the minimum wage. The basic approach is to use quarterly data spanning the years 1967 to 1978 to fit a linear regression of restaurant employment relative to population on the coverage weighted minimum wage relative to the average manufacturing wage, a time trend, and other controls. Alpert next uses the fitted regression model to estimate that the 600 percent increase in the restaurant minimum wage relative to the average manufacturing wage that occurred between 1967 and 1978 reduced restaurant employment by some 250,000 to two million jobs.

I find the results of this exercise questionable. The linear model seems implausible in this in-

stance, and Alpert does not present alternative results to support the robustness of his findings. Moreover, theoretical considerations and empirical evidence suggest that the level of coverage and the minimum wage have differential effects on employment; Alpert's specification constrains coverage and the minimum wage to have equal effects. Finally, the relevant hypothetical for the current policy debate is the effect of a 10 to 20 percent increase in the minimum wage on employment, which Alpert's analysis suggests would only have a modest negative effect on employment in the restaurant industry.

As is the case with most government interventions in the labor market, there are advantages and disadvantages to the minimum wage. Alpert's book elucidates many aspects of the debate over the minimum wage by concentrating on its quantitative effects on the restaurant industry. However, given the severe data limitations and uncertainty in the estimates, I would advise readers to view Alpert's findings with a healthy dose of skepticism.

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The new Keynesian economics: Unemployment, search and contracting. By JEFF FRANK. New York: St Martin's Press, 1986. Pp. xvii, 283. \$27.50. ISBN 0-312-56822-3. JEL 87-0283

This book seeks to be two things to many people. It is primarily an exposition of some central themes in macroeconomics, including traditional Keynesian and neoclassical models, search theory and contract theory, with an emphasis on the connections between these approaches. In addition, Jeff Frank wishes to make the case that asymmetric-information contracting and monopolistic competition together provide a basis for Keynesian models with solid microeconomic foundations. The potential

readership thus includes both students and practitioners. This is an ambitious undertaking for a moderately-sized volume, and it is perhaps not surprising that Frank's first aim is better served than his second.

Part I, comprising five chapters, considers traditional macroeconomic models. After a very brief nod to the stylized facts, Chapter 1 presents a short history of macroeconomic theory. The next three chapters build the Keynesian and neoclassical approaches market by market: Chapter 2 sets out neoclassical labor market theory, and then amends it to the Keynesian (fix-price) case where firms perceive sales rations; Chapters 3 and 4 discuss the loanable funds and money markets. Chapter 5 considers adjustment processes: Frank discusses fix-price models and the Phillips curve, concluding that these do not provide a satisfactory basis for Keynesian models.

While Part I covers standard material, it does so in a clear, careful and appealing manner, making this a useful supplement to the (frequently inferior) treatment in intermediate macroeconomics texts. Students might have difficulties, though, relating such texts to Frank's analysis, given his decision to work in terms of a loanable funds market and his neglect of aggregate supply (due to the fix-price approach). More discussion of these relationships would have been useful.

Part II investigates how more complete analyses of the labor market may improve the models developed thus far, with the ultimate aim of demonstrating Frank's "fundamental thesis . . . the case for contracting in explaining macroeconomic fluctuations" (p. xv). The first two chapters address efficient search (including equilibrium business cycles and policy ineffectiveness) and contracting models. The author emphasizes that, with risk-neutral agents, contracting generates the same employment level as efficient search when placed in the same environment, but can achieve this outcome by involuntary layoffs.

Chapters 8 and 9 explore inefficiencies in these models. When workers search for jobs sequentially, firms need only pay workers their reservation wage, and hence the "last" firm pays a wage equal to the value of leisure. By backwards induction, this becomes the equilibrium wage, implying, in turn, an inefficiently low

level of search. This suggests explicit and implicit contracts as means for firms to commit to wages; asymmetric information, meanwhile, may render first-best contracts infeasible. Frank also discusses staggered/indexed contracts. Finally, he sets up his model of "equilibrium recessions," driven by monopolistic competition and asymmetric information, in Chapter 10.

Chapters 6 to 9 are also valuable. They include a clear presentation of most of the findings of search and contract theory of interest to macroeconomists. A pedagogical strength of the book is that the author uses simple, intuitive examples that strip these models to their essentials. In Chapters 6 and 7 this works particularly well. The exposition becomes less clear in the later chapters, because Frank varies his assumptions in an attempt to balance simplicity and generality. Occasionally, also, he pays insufficient attention to assumptions that are not innocuous, such as that of risk-averse firms in the asymmetric-information setting. It is an unattractive feature of such models that firms tend to shed risk to workers; this deserves more discussion.

The final chapter is the longest, and sits uneasily with the other material. The author is no longer concerned with survey and synthesis, but instead presents original research; as such, the analysis probably belongs elsewhere. In Frank's model, risk-averse price-setting firms face two possible levels of aggregate demand (with known probabilities). Workers cannot observe aggregate demand, so incentive-compatibility requires layoffs in the bad state. Frank shows that there exists a degree of firm risk aversion such that the low level of demand is self-fulfilling.

The "coordination failure" literature, to which this chapter is a contribution, is still in its infancy, and the exact roles of imperfect competition and labor market imperfections remain incompletely understood. The risk that a simple model may mislead, therefore, is greater than in earlier chapters, and readers could be forgiven for being wary of Frank's conclusions. Such scepticism is justified. He is wrong to state, for example, that "monopolistic competi-

tion on its own . . . cannot lead to equilibrium recessions" (p. 235). There exist well-specified models where imperfect competition generates multiple equilibria indexed by the level of economic activity (for example, Walter P. Heller 1986). Frank's fundamental thesis remains unproven.

This is not to say that Frank's model is uninteresting: it shows that imperfect competition and contracting may interact in nontrivial ways, and it generates unemployment, rather than the underemployment of most other models in this literature. But it has some unappealing features that are discussed only briefly—notably the assumed unobservability of aggregate demand and the exogenous probability of recession. It is also unfortunate that labor (with no leisure value) is the only nonproduced good, since Frank wishes to explain equilibrium recessions by firms' having no incentive to change prices and set in motion real-balance effects. This argument seems peculiar in a model where real-balance effects are excluded by construction.

I have two final comments on the scope of this work. Frank takes it as self-evident that neoclassical theory cannot adequately explain macroeconomic fluctuations. Although I am sympathetic to this view, Frank should perhaps have acknowledged real business cycle theories, which argue the contrary position. And I take issue with the title, which promises more than this volume delivers. While Frank is right to highlight search, contracting and coordination failures, he makes no mention of efficiency wages, near-rationality/menu costs, or the hysteresis literature, to mention just some other potential ingredients of a "new Keynesian economics."

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The myth of market failure: Employment and the labor market in Mexico. By PETER GREGORY. World Bank Research Publication series. Baltimore and London: Johns Hopkins University Press for the World Bank, 1986. Pp. viii, 299. \$34.50. ISBN 0-8018-3343-4. JEL 86-1240

This book examines the functioning of the labor market in Mexico from 1940 to 1980. Four pages at the end discuss events after 1980, mostly a period of economic decline in Mexico, using the labor-market framework developed earlier in the book. The theme of the examination is captured in the title, that rather than being underutilized, "a growing labor force has been absorbed in productive employment" and "the terms of employment have shown a steady improvement throughout the course of forty years" (p. 268). The evidence presented portrays an upward trend of real wages during the period examined. The author concludes: "Much of the qualitative evidence suggests that a large part of the urban unemployment may be frictional in character" (p. 267).

Professor Gregory recognizes that these findings are at variance with conventional analysis and the bulk of the book presents data and interpretations to support this heterodox conclusion. One of the key conclusions is that the decline in participation rates of teenagers and young adults has gone hand-in-hand with increases in school enrollments; schooling, he argues, was substituted for labor-force participation. He attributes the drop in participation of the elderly in the labor market to improved social security and increased family income. Open unemployment, as measured in Mexico, was less than four percent throughout the period examined and the author questions the techniques used to measure what is often depicted to be underemployment affecting 45 to 50 percent of the economically active population. His argument is that most part-time employment is voluntary, particularly among technical and professional groups and women. He also argues that much of the labor that appears to be surplus in rural areas divides its time between agricultural and nonagricultural work, depending on the relative opportunity cost.

There was much internal migration in Mexico during the forty years examined, particularly

to urban labor markets. Here again, the conclusion is that the system worked well. Most migrants found jobs with short delays, within days or a few weeks, and at wages higher than in rural alternatives. Professor Gregory's data also show that upward mobility over time was commonly achieved by migrants. He is more tentative about the impact on the wage level in Mexico of emigration to the United States.

There are significant policy implications to the author's conclusions. He asserts that President José López Portillo's misreading of Mexico's employment picture led to the fostering of accelerated but unsustainable economic growth in the years between 1978 and 1981 and that this contributed to the economic crisis with which Mexico has had to cope during the last five years.

Professor Gregory is most proficient in marshalling his data and persuasive in interpreting them. Nevertheless, the reader is left with some doubts. For example, the 1980 census gives the absolute size of the labor force as 22 million. Professor Gregory makes or accepts various adjustments to this figure and bases his analyses on a 1980 labor force of 20 million. The 1980 census, by general consensus, was deficient, but it is not fully clear even after reading the technical passages of the book that the case is iron clad for dropping two million persons from the labor force. If, in fact, the census data are reasonably correct, much of the subsequent analysis of underemployment and disguised unemployment is flawed.

When choices must be made on which data to use or which interpretation of data is correct, Professor Gregory tends to dismiss the conventional view in favor of his own. He rejects the proposition that conditions for the most disadvantaged workers may escape detection by census takers because in this instance he does not wish to discount the relevance of census data (p. 46). He reasons that the large number of hired agricultural laborers in some regions is best explained not by the availability of surplus labor but by the opportunity cost of landholders and their families who are able to accept off-farm labor because of their greater endowment of human capital (p. 129). He is willing to accept the conclusion of a survey with a small, non-scientifically selected sample made at two points in 1982 as evidence that most streetwork-

ers, such as bootblacks and auto watchers, prefer that to regular work (pp. 95-96).

Professor Gregory has presented a professionally competent analysis, supported by a mass of data, that the Mexican labor market did work efficiently during the forty years of consistently high rates of economic growth. While the analysis is impressive, I am not completely persuaded that his thesis is correct. One reason is that he is an advocate, a persuasive and sophisticated one, but still a consistent advocate of those explanations that fit his thesis rather than others that have merit. Another reason for my reservation is uncertainty that his manipulation of official data necessarily leads to correct figures. Even if they do not, however, this may not negate all the conclusions, such as on the trend of real wages. After reading Professor Gregory's book, I will never again accept without question the conventional explanations of the failure of the Mexican labor market during the halcyon years of sustained economic growth.

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Saving free trade: A pragmatic approach. By ROBERT Z. LAWRENCE AND ROBERT E. LITAN. Washington, DC: Brookings Institution, 1986. Pp. xi, 132. \$22.95. ISBN 0-8157-5178-8. JEL 87-0288

With the possible exception of the exercise of monopoly power in world markets, there is no economic case for protectionism. Almost all legitimate goals pursued through direct intervention in trade can be better accomplished by other policies. Quantitative restrictions, which eschew price incentives, lessen competition at home, and beg for the exercise of market power by foreign suppliers, are in turn the worst form of protectionism. Set against this economic case are recurrent provisions of relief to industries injured by import competition, an inevitable outgrowth of representative democracy and economic nationalism. Congress has recently debated no fewer than six proposals to expand the scope and automaticity of escape clause relief through protection; and quantitative restrictions (e.g. steel, cars, textiles) are seriously discussed and sometimes put in place.

For "pragmatists" Robert Lawrence and Robert E. Litan, the reconciliation of economic logic

and political reality lies in legislative procedures which accommodate protectionist demands in the least onerous fashion. Their timely and compact analysis contains four substantive chapters. The (il)logic of protectionism is the thrust of Chapters II and IV, which respectively survey the issues and critique specific current legislative initiatives. The realistic alternative, in their view a modification of the existing programs for escape clause relief and trade adjustment assistance, is the centerpiece of Chapters III and V. Here, respectively, the historical performance of these programs is reviewed and the proposed modifications are forwarded.

The case for free trade is made in nontechnical fashion. It is documented with industry case histories and is especially fresh in speaking to popular rationalizations for protection. For example, it is argued that: i) tradable sectors are not peculiar in the risks they face nor in the mobility of their factors; thus, equity is not promoted by supplementing the Federal safety net with special relief from import competition; ii) historically and at a very high cost to consumers, tariffs and quotas barely bolster employment (because they reduce effective protection in sectors using the protected good as an input) and barely sustain existing jobs (because protected industries usually retrench and relocate anyway); iii) current account imbalances reflect an intertemporal consumption decision over which trade intervention has small and uncertain leverage; and iv) protection as a tool of industrial policy and conditional on an approved adjustment plan promotes cartelization and substitutes central planning for individual initiative. Readers will find an understatement at points (e.g., wages and profits in tradable sectors already compensate for the undiversifiable risk of world markets) and an overstatement at others (e.g., optimal tariff arguments are overlooked and intertemporal consumption paths can respond to the real income consequences of protection under full employment). But such subtleties of the high tower would be a diversion. From the ground level, quotas are bad policy; and protection is not the way to save jobs, improve the current account, or lower costs in threatened sectors.

Rather, protection is aid. This was the blatant, original premise of the escape clause and trade adjustment assistance (TAA) programs

which were to provide temporary relief under specific circumstances in (implicit) exchange for a broad based lowering of trade barriers. These programs, we learn here, have evolved with mixed success. The former has proven strengths as a framework: International Trade Commission rulings have been relatively isolated from partisan politics and special interest pressures, can establish uniform eligibility requirements and reporting standards, and have generally led to relief that is both temporary and tariff-based. The latter has potential strengths as a tool: it targets aid to displaced workers; does so in subsidy form; and, if continued after workers relocate, need not seriously disrupt resource reallocation. Lawrence and Litan's specific proposal would combine these strengths by making TAA automatic and prohibiting the use of quantitative restrictions upon a finding of injury under the escape clause. Among other innovations, the proposal aims to increase relief through lenient antitrust standards for injured sectors; and earmarked revenues from new tariffs and old quantitative restrictions converted to tariffs would amply fund a TAA generous by historical standards. As before the analysis is stark and, for this reader, convincing: a given volume of aid through the proposed channel would be cheaper and better targeted than through the existing programs or piecemeal legislation, and protection would be provided within a framework that does not mask its purpose.

However, some issues remain. Lawrence and Litan's second-best solution is not free trade. Even if the new program diverted protectionist demands completely, tradable sectors would be over-insured and we have yet to devise a lump sum subsidy which would not impede resource reallocation in the face of a trade shock. The new proposal would retain tariff relief, on which funding would depend: tariffs are far from a first best source of revenue and tool of subsidization. The original escape clause and TAA took high tariffs as the status quo and made tariff reductions a (potential) Pareto improvement. The pragmatist, in effect, takes trade barriers in response to adverse shocks in international markets as the status quo. By making escape clause relief more legitimate and accessible—especially if legislators and their constituents view the new relief as a poor substitute in scope and form for the old—we run the risk of in-

creasing protectionist demands. For example, merger leniency for industries facing strong foreign competition seems sensible, even innocuous. But for just this reason it may be perceived as a small favor and no substitute for quota protection.

More generally, *Saving Free Trade* is bound to provoke debate on the comparative social costs of alternative aid frameworks and on the precise nature of the political constraint which motivates its second best vision. By initiating this debate with sound arguments accessible to a wide audience, this book is a welcome contribution. It demands a reading by students and makers of U.S. trade policy.

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The end of economic man? Custom and competition in labour markets. By DAVID MARSDEN. New York: St. Martin's Press, 1986. Pp. ix, 278. \$27.50. ISBN 0-312-25060-X.

JEL 87-0289

Because many of the issues addressed by labor economists are also the subject of study by researchers in industrial relations and industrial sociology, there have been regular exhortations over the years for greater cooperation between the scholars in the three disciplines. More often than not, these exhortations have taken the form of specialists in industrial relations and industrial sociology admonishing economists for the inadequacies of their models which are denounced as having assumptions or yielding implications in flat contradiction to what is observed. In some instances these criticisms have merit and yet they have not had a significant impact on research in labor economics, something that is itself of interest to students of scientific methodology.

This book written by an industrial relations scholar is in this same critical tradition: in the search for a multidisciplinary approach to labor market problems, the author presents a selective though wide-ranging commentary on research in labor economics. We are taken on a six chapter tour of models of implicit contracts, transactions costs, trade union behavior, discrimination, internal labor markets, segmented markets, and social custom. I found some of the author's accounts of French research on earnings and employment especially interest-

ing. For the most part, he avoids the most common failing of scholars from other disciplines describing economists' models, that of drawing caricatures of these models. His readiness to contrast each model's central features with labor market practices, institutions, and outcomes is admirable and, occasionally, he is able to register some telling criticisms. However, some of the author's expositions of economists' research (such as that on implicit contracts and discrimination) are terse or idiosyncratic and those readers not already familiar with these models may well have difficulty in grasping their logical structures.

Though he doesn't quite express it this way, Marsden identifies the principle of *substitution* as the central concept in the way economists reason about labor market behavior: there is substitution in the form of alternative workers a firm could hire, alternative employers for whom individuals could work, alternative technologies firms may use, alternative ways in which individuals may satisfy their wants, and so on. These (albeit limited) substitution possibilities are embodied in the objective functions of individuals and firms. Marsden argues that this principle of substitution operates to the degree economists posit in only two types of labor markets: those for unskilled or casual workers; and those where skills are fully transferable across firms. He implies that these together characterize a small number of labor markets in the modern economy. The substitution principle is not a useful way to organize our thoughts, Marsden suggests, in markets for firm-specific skills. For such internal labor markets, the methods of industrial relations research and sociology are more useful and these emphasize the role of institutions and social customs not as manifestations of conventional supply and demand or bargaining forces, but as impediments to or opponents of these forces. Marsden views firm-specific internal labor markets as the norm where the behavior of such markets defies the sort of optimizing-type considerations that are the hallmark of economic analysis.

Economists will be hard pressed to detect the differences between Marsden's views and those usually expressed by industrial relations researchers. If there are important differences, it would have helped had they been identified

thize with his view and, indeed, certain game theoretic models provide a formal characterization of the role of custom, reputation, fairness, and other such considerations in affecting labor market outcomes. However, most economists will regret that such a small fraction of this book is taken up with developing the author's alternative view and with illustrating its analytical abilities. (Only a part of the last chapter is devoted to an outline of the research strategy Marsden advocates.) It is true that Marsden's central purpose is not to spell out and describe his proposed research method, but rather to critique certain contributions to labor economics research. However, without a convincing demonstration of the insights to be gained from this alternative research strategy, the book is unlikely to have much influence on labor economics thinking. What its impact will be on research in industrial relations and industrial sociology, I cannot say.

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Alternative systems of business organization and of workers' remuneration. By J. E. MEADE. London, Boston and Sydney: Allen and Unwin, 1986. Pp. x, 144. \$24.95. ISBN 0-04-331112-1. JEL 87-0290

This monograph is an extended exercise in what may be called comparative institutional economics. It specifies a simple one-sector model of the economy that involves product differentiation and increasing returns to scale on the supply side, and that is closed on the demand side by the stipulation that all income is consumed. The equilibrium and comparative static behavior of the model are examined under a number of different assumptions on the institutional structure of the firm. The objective is to study the nature and the extent of the relationship between economic outcomes and business organization.

This kind of exercise has been performed with significant effect by Martin Weitzman in his writings on the macroeconomics of the "share" economy (Weitzman 1984). His basic theme is that in the long run of a share economy firms will equilibrate at positive excess demand for labor. This is because the share economy by definition is one where the cost per unit of labor falls as employment rises. A "small" deflationary shock will therefore leave the share econ-

omy at full employment, even in the short run.

Meade presents his own work here as wholly inspired by that of Weitzman, although he has demonstrated previously a considerable interest in closely related areas. In this book he seeks to build on Weitzman's work by considering in a unified framework the comparative institutional implications of a capitalist wage economy, a capitalist share economy, an egalitarian labor-managed firm and a discriminating labor-capital partnership.

Meade's main contribution is in the exposition of "Discriminating Labour-Capital Partnerships" given in Chapter VI. This picks up on a major problem with Weitzman: the fact that in his share economy firms can dilute the value of the individual worker's "share" of the firm by increasing employment. This feature is central to Weitzman's argument but is not plausible as a statement of what workers are likely to accept in practice. It is precisely these income-dilution effects from additional employment that distinguish the egalitarian labor-managed firm from the capitalist wage firm. Meade forsakes egalitarianism, suggesting instead a factors-remuneration scheme based on a common dividend payable to the owners of capital and labor share certificates. The capital certificates would be much like current stock-market share certificates. The labor certificates would be nontradable and would be surrendered only if the employee left the business voluntarily; in the case of layoff the worker would retain her claim on the firm's income stream. The point of the scheme is that it allows the firm to discriminate between workers in its remuneration contracts; marginal workers can be hired, by the issue of shares, in a way that does not reduce income to the existing worker. Further, since the shares of both capital and labor have equal claim on the same dividend pie a substantial harmony between the interests of the two factors is introduced: for example, the potential adverse consequences for capital investment found in a Weitzman-type share scheme can be avoided.

Of course this scheme is based on negation of the principle of equal pay for equal work. And it has a number of other negative connotations. Nonetheless the implications of such a discriminating contractual form that puts labor and capital on a partnership footing are interesting and are thoughtfully discussed. Fortunately

this chapter relies hardly at all on the mechanics of the more formal preceding chapters and so is directly accessible to the reader.

There are also a number of interesting themes elaborated in the penultimate chapter (Ch. V) where the author's version of the "Capitalist Sharing Economy" is presented and analyzed. In particular the demonstration that the share economy is vulnerable to entry by firms offering fixed-wage contracts unless the individual firms' share parameters are flexible in the short run is important in considering the survivability of a share economy. The careful distinction made between the fixed-wage component and the share component of a worker's remuneration is valuable, as are some remarks on the ramifications of a share system for firms' capital investment decisions. Beyond this, Weitzman's basic theme is corroborated in the context of this simple general equilibrium model of the economy.

This reader must report some disappointments, however. The book is often hard to read, with completeness rather than clarity being emphasized in the presentation of results. This is particularly true in the first half where the basic model is presented (Ch. II), and where the "Capitalist Wage Economy" (Ch. III) and the "Non-Discriminating Labour Co-operative" (Ch. IV) are analyzed. Very little of the material in these chapters is novel; it serves only as a backdrop for the final two chapters discussed above and as such could have been much more succinctly and tellingly presented.

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REFERENCE

WEITZMAN, MARTIN L. *The share economy: Conquering stagflation*. Cambridge, MA & London: Harvard U. Press, 1984.

Women and equal pay: The effects of legislation on female employment and wages in Britain. By A. ZABALZA AND Z. TZANNATOS. Cambridge, New York and Melbourne: Cambridge University Press, 1985. Pp. ix, 140. \$29.95. ISBN 0-521-30188-2. JEL 87-0585

In 1970 Britain enacted the Equal Pay Act which became fully implemented at the end of 1975. Also at the end of 1975, the Sex Discrimination Act became law. Over the same brief legislative period, the relative wages of

tion, caused important changes in company industrial-relations programs as well as in union policies and practices, especially in manufacturing industries.

The authors emphasize that management policies and actions have been the main driving force in American industrial relations during the 1970s and 1980s (p. 48). And they explain how a company's industrial relations goals and programs can influence top-level strategic business decisions. The introduction of labor goals and programs into the process of top-level decision making increases the need for revision of the theory of the firm (as proposed by Herbert Simon, Richard Cyert, and others) for use in industrial relations analysis.

Application of this broad framework shows that more studies and analysis are necessary before a body of generalization and testable propositions can be developed and used for predictive purposes. Part of the problem is that U.S. industrial relations have varied so much across industries, companies, unions, and settings. Different types of industrial relations often operate in the same area and even in different individual plants of large corporations.

In a final chapter, the authors deal with the implications of developments during the past decade for company managements, union leaders, and public policy including legislation. However, they shun any prediction of the shape of American industrial relations in the future, pointing out that major developments in the past have seldom been foreseen.

Whether developments during the past decade in all three tiers are substantial and widespread enough to constitute a new industrial relations system with staying power is a question that is being seriously discussed. Critics point out that union-management cooperation has a long and spotty history, arising under the stimulus of stressful conditions and tending to decline and disappear as the generating forces abate. Most of the material for making a judgment on the issue is contained in this book.

Kochan, Katz, and McKersie have made a major step forward in the systematic analysis of industrial relations in this country. They provide a good basis for further progress in theory and practice in the field.

RICHARD A. LESTER

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The fourth wave: California's newest immigrants. By THOMAS MULLER AND THOMAS J. ESPENSHADE WITH DONALD MANSON, MANUEL DE LA PUENTE, MILDRED GOLDBERGER AND JUAN SANCHEZ. Washington, DC: Urban Institute Press, 1985. Pp. xvii, 217. \$19.95, cloth: \$12.95, paper. ISBN 0-87766-349-1. JEL 86-0932

Between 1970 and 1983, over two million foreigners immigrated to California (almost half of them to Los Angeles County). Asians accounted for about one-third of the total, but over two-fifths came from one country: Mexico. Thomas Muller, the principal author of this book, and Thomas Espenshade (who played Rimsky-Korsakov to Muller's Mussorgsky, finishing the manuscript when Muller took on another assignment) analyze the features and effects of this immigration. Chapter 1 summarizes the history of immigration to the U.S., with special reference to California; Chapter 2 presents an overview of the characteristics of recent immigrants to California and compares them with those of U.S.-born residents; Chapter 3 provides a detailed description of California's Mexican immigrants.

The bulk of the book's economic analysis—which focuses on Mexican immigration to California and its effects—appears in Chapters 4–6 and discusses impacts on the labor market, effects on state and local government expenditures and revenues, and other demographic, economic and fiscal effects. After examining estimates of projected levels of labor supply and demands in the late 1980s and beyond in Chapter 7, the book concludes in Chapter 8 by considering likely future trends in immigration to California and the potential consequences of alternative immigration policies. Several appendices discuss technical issues, including the results of a poll of California residents' attitudes towards immigration.

On the whole, the authors are sanguine about California's recent experience with immigration, especially its economic consequences. Their relatively upbeat assessment resembles that adopted in another recent work on the same subject (McCarthy and Burciaga Valdez 1986). For example, Muller and Espenshade write (p. 197): "in the aggregate, [the economic and fiscal] effects are probably positive, or at

least not negative, [so] noneconomic issues are likely to become increasingly important in formulating national immigration policy" (which, however, did not seem to be the case when Congress debated and ultimately adopted landmark immigration legislation last year). They conclude that immigration has had negligible if any impact on employment and unemployment rates, even among blacks, and that their results provide little support for the claim that Mexican immigrants "take jobs away from blacks" (see pp. 91-102). Similarly, with the exception of laborers and some other groups at the bottom of the occupational ladder, they do not find much evidence that immigrants (in particular, Mexican immigrants) appreciably depress natives' wage rates (see pp. 109-23).

Immigration's fiscal effects may be one possible cause for concern, however. The authors estimate that, in 1980, the cost of state and local government services provided to Mexican immigrant households in Los Angeles County averaged \$2245 per immigrant household more than taxes received. State government bore most of this burden, which the authors say is primarily attributable to Mexican immigrants' relatively large families and relatively low earnings. However, spread over all households in the county, this deficit is only about \$139 per household. Moreover, the authors probably overstate the immigrants' total cost to government because they use per-pupil (i.e., average cost) rather than marginal cost figures in assessing immigrants' use of the schools (which, in the authors' calculations, is a large part of the total cost of immigrants to government).

All in all, *The Fourth Wave* is a sensible and thoughtful assessment of what has—and has not—been happening in one of the states most heavily affected by immigration, especially Mexican immigration. It is a useful antidote to less careful (and at times regrettably emotional) discussion of a contentious topic. Since it covers not only economic but also social and cultural issues (e.g., crime, schools, family life) and is written in a clear and nontechnical manner, it should appeal to a wide audience.

Unfortunately, the book's appeal to specialists, particularly economists, is likely to be somewhat limited. Partly because of the serious data limitations that hamper virtually all research on immigration, and partly because the

book is (it appears) aimed mainly at nonspecialists, *The Fourth Wave* breaks little new ground in the analysis of the economic effects of immigration. Frequently, the authors attempt to draw inferences about the effects of immigration from comparisons of unadjusted levels (e.g., of employment or unemployment rates) a decade or more apart, with little or no attempt to allow for the effects of factors other than immigration. For example:

The period from 1970 to 1982 was marked by rising rates of unemployment, both nationwide and in California. For all groups in the United States, unemployment rates more than doubled. The smallest increases [in Los Angeles] were for blacks . . . —26 percent for adults and 35 percent for teenagers—followed [for California] by black teenagers . . . In sum, trends in unemployment rates do not provide evidence of sharp job competition between immigrants and blacks. (p. 97)

Comparisons of a similar nature are offered in support of the view that immigration may have retarded wage growth at the low end of the occupational spectrum (pp. 120-22).

To their credit, the authors note that such comparisons do not allow for other factors, operating along with (or in opposition to) immigration, that may also have affected labor market outcomes over the same period (see, e.g., p. 97). Accordingly, they present relatively simple regression analyses aimed at isolating the independent effect of Hispanic immigration on black unemployment rates (pp. 97-101) and black wages (pp. 122-23) using metropolitan area-level data aggregated from the 1980 Census. Neither analysis is particularly compelling. In each case, a measure of black economic status is regressed on a measure of Hispanic representation or Mexican immigration; population change between 1970-80; percentage of area income earned in construction or durable goods; white economic status (either unemployment rate or income) and percentage of blacks age 25 or older with at least a high school education. Arguably, all of these regressors (with the possible exception of the last one) are endogenous to Hispanic immigration; yet none of them will reflect non-Hispanic immigration (e.g., of Asians, which, as the authors themselves observe, has become increasingly important in California). Finally, in the second of the two analyses the dependent variable is black family

incomes, the use of which seems a less than satisfactory means of assessing whether immigration affects blacks' wage rates.

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REFERENCE

MCCARTHY, KEVIN F. AND BURCIAGA VALDEZ, R. *Current and future effects of Mexican immigration in California*. Report R-3365-CR. Santa Monica, CA: Rand Corp., May 1986.

900 Welfare Programs; Consumer Economics; Urban and Regional Economics

910 WELFARE, HEALTH, AND EDUCATION

The economic emergence of women. By BARBARA R. BERGMANN. New York: Basic Books, 1986. Pp. x, 372. \$19.95. ISBN 0-465-01796-7. JEL 87-0611

The Economic Emergence of Women is a lively discourse on the status of women in the work place and at home, and on the merits and drawbacks of alternative ways in which women might seek to change it. Bergmann sees the status of women at home as both a consequence and cause of their status in the work place. In the work place, she argues:

Women are fenced off from a disproportionate share of what we might call "labor-market turf." As a result, the turf assigned to them tends to be relatively overcrowded. . . . That translates into restricted demand for labor in the women's labor market and lowers the wage levels in the jobs that are filled there. It makes the wages low in the traditionally female occupations. It also lowers the pay of the jobs that women hold in occupations that are mixed-sex and mostly male. (p. 125)

At her verbal best, the author displays a keen ability to show up the flaws in an opponent's position. In explaining one perspective on the occupational segregation of women that is favored by some economists, she writes:

Some economists have used deductive reasoning to deny that occupational segregation could be discriminatory. They point to competitive pressures on employers that, they say, compel them to minimize costs. . . . But even if incontrovertible evidence were presented that competent women were being turned away by an employer,

then governmental intervention still would not really be necessary. The employer in question would, after all, be in the process of committing economic suicide and would not be marring an otherwise discrimination-free labor market for very much longer. (p. 138)

She goes on to suggest:

We see thousands of business failures every year in the United States . . . ; but no one has ever reported seeing a firm that discriminated reduced to ruin by a less bigoted competitor . . . (pp. 138-39)

Commenting in a similar vein on certain hypotheses for explaining intra-occupational female-male pay differentials, Bergmann writes:

Gary S. Becker has conjectured that differences in pay between men and women are in considerable part due to housework differences between the sexes. . . . Women workers, he says, are tired from doing all the family's housework, while men come to their jobs fresh from their rest and recreation. It is hard to believe, though, that female operators of slicing and cutting machines make \$192 and male operators of slicing and cutting machines make \$303 because the males, being less tired, do a better job of slicing and cutting. (p. 123)

From the perspective of substance and a careful treatment of alternative points of view, perhaps the two best chapters are Chapter 7 titled "Fighting Discrimination Through Affirmative Action" and Chapter 8 titled "Achieving Pay Equity." Bergmann begins in Chapter 7 by explaining the basic difference between affirmative action and pay equity measures. She goes on to outline the main affirmative action measures that have been instituted in the United States, beginning with the passage of Title VII of the Civil Rights Act of 1964. She explains what sorts of practices are and are not treated as discriminatory under Title VII and subsequent affirmative action measures, as these have been interpreted by the courts. She provides an interesting perspective on the enforcement of Title VII by the Equal Employment Opportunity Commission.

Bergmann also calls attention to a number of the more important problems involved in implementing affirmative action programs. For instance, she deals in a forthright manner with objections to quotas:

The unstated essence of the complaint about quotas is that the above-average performance of

certain groups (and the below-average performance of other groups) cannot get proper recognition under affirmative action. It could in principle, but in practice, it is admittedly difficult to arrange . . . (p. 171)

Her reply to those who oppose affirmative action because of the reliance on quotas is succinct:

The situation that most justifies affirmative action is where the 'quota' for the excluded group has already been set—by the discriminators—at close to zero. Affirmative action then can be seen as upping an already existing quota into a fairer range. (p. 171)

On a more general level, Bergmann argues that the unfortunate aspects of quotas must be balanced against "the reality of currently operating discrimination, the serious harm that discrimination causes, and the lack of a feasible alternative to deal with it" (p. 171).

In Chapter 8, the author explains the similarities and the crucial difference between wage determination under a pay equity program and wage setting based on job evaluations as this practice is carried out by a considerable proportion of large employers in both the private and public sectors. On balance, she prefers the affirmative action to the pay equity approach to redressing the disadvantaged position of women in the labor market. She explains:

A successful affirmative action program . . . should have the same effect on wages as a well-planned and well-implemented pay equity program. Moreover, affirmative action has added benefits that pay equity reforms lack. Affirmative action allows women workers to have access to jobs they may enjoy and be good at, and it promotes the equality of men and women by casting them as equals on the job. It causes the adjustment of wages through the market mechanism and avoids any disemployment effects. In fact, if affirmative action were proceeding rapidly, a pay equity campaign might be redundant . . . (p. 191)

Bergmann argues that the consequences of sidelining affirmative action programs in the rush to have pay equity measures enacted will be unfortunate. Nevertheless she acquiesces to the judgment that the affirmative action programs that have been implemented so far have done little to improve the wage situation of the majority of women who are working in traditionally female jobs. She concedes that pay equity could help these women in a timely way.

And she does endorse pay equity programs as "properly cleaned-up job evaluation schemes" that provide "a promising methodology for the removal of sex bias from wage scales, one pioneered by business itself" (p. 182).

Like most books, this one has weaknesses as well as strengths. The first chapter draws on too many streams of thought from the literature without providing sufficient background material for an uninitiated reader. There are assertions throughout the book that are not, and some that probably could not, be supported with evidence. The references provided to actual court testimony are valuable, and the inclusion of excerpts from some of this testimony in the text adds considerable interest. The practice of mixing this documentary evidence with observations and experiences reported to Bergmann by some of her students is a dubious asset, however. Also, some of the references to the academic literature do not provide exactly the evidence implied by the context in which these works are cited. For instance, Bergmann writes: "Fewer children have meant that more mothers are in paid jobs, but the effect has been relatively small" (p. 49). She cites our book (Nakamura and Nakamura 1985) as the source of this finding. What we actually found is that children have only a modest impact on the current work behavior of their mothers *after controlling for work behavior in the previous year*. This finding does not rule out the possibility that changes over time in desired or expected family size may have had substantial effects on the training and career development decisions of young women, leading to an upward trend in the proportion of married women with jobs prior to the birth of their children, and to higher employment rates for mothers.

On balance, however, this is an excellent book. The willingness Bergmann displays to compare the likely benefits and injustices associated with imperfect alternatives, without glossing over the drawbacks of the alternatives she prefers, should have an uplifting effect on the level of academic and political debate concerning proposed measures for improving the status of women. The author offers fresh insights and interesting recommendations on public policy for a broad range of topics including the welfare system, the plight of the single parent, the job of the housewife, and the indus-

trialization of housework and child care. She concludes with what she terms a "policy agenda for the sex-role revolution." The book is well worth its modest cost for both those who are actively concerned with the economic and social issues on feminist agendas, and for more general readers.

ALICE NAKAMURA AND MASAO NAKAMURA
University of Alberta, Edmonton

REFERENCE

- NAKAMURA, ALICE AND NAKAMURA, MASAO. *The second paycheck: A socioeconomic analysis of earnings*. Orlando, London, Toronto and Sydney: Harcourt Brace Jovanovich, Academic Press, 1985.

940 REGIONAL ECONOMICS

Regional dynamics: Studies in adjustment theory. By GORDON L. CLARK, MERIC S. GERTLER AND JOHN WHITEMAN. Boston, London and Sydney: Allen & Unwin, 1986. Pp. xxiv, 342. \$39.95, cloth; \$19.95, paper. ISBN 0-04-330354-4. JEL 87-0332

This book seeks to provide a new approach to regional growth, focusing on dynamic adjustment processes. Short-run decisions are viewed as accumulating into long-run patterns of regional growth, income, and employment. Regional investment is volatile and conditioned by immediate past economic events rather than a stable long-run target. This approach is contrasted throughout the book with three other perspectives: neoclassical economic theory emphasizing equilibrium outcomes; cumulative causation theory stressing self-reinforcing growth; and catastrophe models exhibiting smooth short-run growth followed by sudden reversals of investment and regional fortunes. Clark, Gertler, and Whiteman regard distribution as central, including distribution of income, of power, and of uncertainty. They describe regional adjustment as "a process by which a particular social and spatial distribution of uncertainty is created through production" (p. 20). The book's empirical aim is to contribute to an understanding of the transformation of the U.S. regional system since about 1950.

Part I discusses the theory of regional adjustment, and tests a model of regional production for two industries, textiles and electronics, across states and regions of the U.S. Part II

examines the demand for labor, with emphasis on fluctuations and rigidities in local labor markets and the risks of employment loss. Part III focuses on local wages and prices, and Part IV on interregional labor migration, including relationships between capital growth, immigration, and outmigration. The final Part V examines regional capital dynamics, attempting to build a "bottom-up" characterization of the investment process emphasizing past profits and the pre-existing stock of local or regional capital.

The book tends to assume familiarity with the statistical techniques employed (e.g., survival functions, Box-Jenkins techniques, cross-correlation functions, Granger and Newbold causality tests). It also draws heavily on previously published work by the authors, not always smoothly integrated into a cohesive whole, and lacks any concluding section. For both reasons, it will be more accessible to specialists than to the general reader.

The authors are correct to identify serious weaknesses in current theoretical approaches to regional growth. Starting instead from Kaleckian roots, they characterize the process under study as one of capital accumulation. They appear, however, to see only two theoretical alternatives: treating investment and migration as highly volatile and essentially responding to short-run shocks; and positing long-run equilibrium targets of firm or individual behavior. One can, however, conceive of firms as having long-run accumulation objectives which they attempt to realize through pricing, investment, and other strategic behavior, without viewing them as seeking equilibrium targets (Penrose 1959; Shapiro 1981; Steindl 1976). Moreover, characterizing the investment process as a series of responses to short-run shocks, without accounting for the shocks, limits one to description rather than theoretical explanation.

Much of the empirical analysis is posed not in terms of regions, but selected state-industry pairs (e.g., textiles in Alabama) or cities. The patterns analyzed often do not exhibit clear regional variation. The authors thus should make more clear whether the region is now a theoretically meaningful object of study, and if so how to define it. Large-scale firms, which the authors point to but do not really incorporate into the analysis, tend to dissolve the economic regions of the nineteenth century. While the au-

thors' effort to model investment as dependent upon past profitability is an important positive step, its effects on spatial development will depend upon the evolution of firms and the geographical boundaries within which they deploy their retained earnings. In this connection it would be useful to have information on the size distribution and scope of operations of firms in the industries studied.

The empirical results contain some potentially interesting findings, but serious difficulties arise in assessing their representativeness and implications. Textiles and electronics figure very heavily in the empirical work. These are two main industries cited by Massey (1984) and others as recently undergoing restructuring, with spatial consequences that may differ from other industries. The analysis of employment risk is based on only two cities, Dallas and Pittsburgh, which are described as "growing" and "declining" respectively. Pittsburgh, while experiencing considerable economic difficulties, remains one of the leading U.S. cities in corporate headquarters, and has a major research and technology university. The results on page 123, for example, concerning risks of job loss in services and finance, insurance, and real estate might not be found in other northern cities.

In a number of cases the empirical results are fairly inconclusive. For example, in investigating the relationship between capital growth and past profit and wage rates (pp. 311-12), none of the independent variables is significant in more than 30 of the 74 cases (state-industry pairs); in the subsequent investigation of capital intensity the hypothesized negative relationship between the profit rate and capital intensity is found in only 40 of the 74 cases. Moreover, much greater caution should be exercised in inferring causality, rather than simply correlation, from the types of tests utilized (Cooley and LeRoy 1985).

The authors seek to draw policy conclusions

from their findings. They argue that in general gross profits rather than wages determine the demand for labor, and past retained earnings are crucial for capital formation. Consequently, economic development policy should be directed not toward reducing wages, but toward stimulating profits and improving accessibility to finance. In the zero-sum distributional game underlying their approach (p. 128), however, it is not clear how profits are to be increased if not at the expense of wages. A possibility deserving more consideration would be policies to increase productivity, perhaps through restructuring work practices or other technological or organizational changes.

In sum, the book is useful in highlighting the possibility of alternative theoretical approaches to regional growth, and in suggesting avenues for empirical exploration, rather than in presenting a definitive treatment of its subject. One can hope that it will stimulate further research to develop the theoretical and empirical bases for an understanding of regional growth rooted in elements Clark, Gertler, and Whiteman rightly stress as central, including capital accumulation, the role of past profits, uncertainty, and distribution.

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New Books: An Annotated Listing

Classification System for Books

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|--|--|
| <p>000 General economics; Theory; History; Systems</p> <p>010 General economics</p> <p>020 General economic theory</p> <p>030 History of economic thought; methodology</p> <p>040 Economic history</p> <p>050 Economic systems</p>
<p>100 Economic growth; Development; Planning; Fluctuations</p> <p>110 Economic growth; development; and planning theory and policy</p> <p>120 Country studies</p> <p>130 Economic fluctuations; forecasting; stabilization; and inflation</p>
<p>200 Quantitative economic methods and data</p> <p>210 Econometric, statistical, and mathematical methods and models</p> <p>220 Economic and social statistical data and analysis</p>
<p>300 Domestic monetary and fiscal theory and institutions</p> <p>310 Domestic monetary and financial theory and institutions</p> <p>320 Fiscal theory and policy; public finance</p>
<p>400 International economics</p> <p>410 International trade theory</p> <p>420 Trade relations; commercial policy; international economic integration</p> <p>430 International finance</p> <p>440 International investment and foreign aid</p> | <p>500 Administration; Business finance; Marketing; Accounting</p> <p>510 Administration</p> <p>520 Business finance and investment</p> <p>530 Marketing</p> <p>540 Accounting</p>
<p>600 Industrial organization; Technological change; Industry studies</p> <p>610 Industrial organization and public policy</p> <p>620 Economics of technological change</p> <p>630 Industry studies</p> <p>640 Economic capacity</p>
<p>700 Agriculture; Natural resources</p> <p>710 Agriculture</p> <p>720 Natural resources</p> <p>730 Economic geography</p>
<p>800 Manpower; Labor; Population</p> <p>810 Manpower training and allocation; labor force and supply</p> <p>820 Labor markets; public policy</p> <p>830 Trade unions; collective bargaining; labor-management relations</p> <p>840 Demographic economics</p> <p>850 Human capital; value of human life</p>
<p>900 Welfare programs; Consumer economics; Urban and regional economics</p> <p>910 Welfare, health, and education</p> <p>920 Consumer economics</p> <p>930 Urban economics</p> <p>940 Regional economics</p> |
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Annotated Listing of New Books

Editor's Note

Our policy is to annotate all English-language books on economics and related subjects that are sent to us. A very few foreign-language books are called to our attention and annotated by our consulting editors or others. Our staff does not monitor and order books published; therefore, if an annotation of a book does not appear six months after the publication date, please write to us or the publisher concerning the book.

An index to the *Annotated Listing of New Books* will appear at the end of the *General Index* in the December issue.

000 General Economics; Theory; History; Systems

010 GENERAL ECONOMICS

CH, GEORGE LELAND. *Economics: Analysis, decision making, and policy*. Eleventh edition. With ROBERT FLANAGAN ET AL. Englewood Cliffs, N.J.: Prentice-Hall, [1954 . . . 1980] 1987. Pp. xv, 752. ISBN 0-13-227240-7. JEL 87-0970

An updated version of an introductory textbook emphasizing the working of the major institutions of the modern economy and the way the economy works in dealing with both public and private problems. This edition gives special attention to: macroeconomics, political economics, the modern corporation, international economics, money and financial markets, income distribution and labor economics, and economic growth. Teaching aids include an instructor's manual, student workbook, and test item file. Also available in two paperback editions separating chapters suitable for macroeconomics and microeconomics courses. Back is at Stanford University. Name and subject indexes.

BECKER, WILLIAM E. AND WALSTAD, WILLIAM B., eds. *Econometric modeling in economic education research*. International Series in Economic Modeling. Norwell, Mass.: Dordrecht and Lancaster: Kluwer Academic; Kluwer-Nijhoff, 1987. Pp. xiv, 255. \$54.95. ISBN 0-89838-218-1.

JEL 87-0971

Twelve papers examine the relevance of econometric techniques to economic education. Papers discuss: statistical methods in economic education research; the process of building theoretical models; measuring intervention, interaction, and distribution effects with dummy variables; experimental and nonexperimental approaches to statistical research; measurement instruments; simultaneous

equations estimation; two-stage least squares estimation; the probit model; the analysis of qualitative and limited responses; limited and discrete dependent variable models; simultaneous nonlinear learning models; and the use of Bayesian analysis. The contributors are economists. Becker is Professor of Economics at Indiana University. Walstad is Associate Professor of Economics and Director of the Center for Economic Education at the University of Nebraska, Lincoln. Index.

BLOMQUIST, ÅKE; WONNACOTT, PAUL AND WONNACOTT, RONALD. *Economics*. Second Canadian edition. Toronto; New York; Auckland and London: McGraw-Hill Ryerson, [1983] 1987. Pp. xxxi, 834. ISBN 0-07-549159-1. JEL 87-0972

Starting point of this book is the third U.S. edition of Wonnacott and Wonnacott, *Economics*. For the macro portion the focus is on having students be able to understand public controversies over topics such as national spending and debt, price controls, monetary policy, and exchange rates. Builds up to six controversial questions dealing with the use of fiscal or monetary policies, fixed or flexible exchange rates, fine tuning the economy, inflation and unemployment, adjustments to inflation, and productivity and growth. The micro portion is organized around the themes of efficiency and equity. Deals with both analytical tools and problems of efficiency including regulation, public goods, resources, and problems of international trade and issues of equity such as factor returns, poverty, and inequality. Emphasizes the understanding of current policy issues. More demanding materials appear in appendices, optional boxes, and starred sections. Canadian emphasis includes discussion of international economic relations, high marginal propensity to import, activities of the Bank of Canada, import

prices and wage and price controls in Canada, roles of foreign capital and ownership of natural resources, acid rain, Canadian bank failures, macroeconomic performance, and welfare reform. Substantial changes in this edition have been made in the microsection. Also contains a new section on "Economic Efficiency: Issues of Our Time." Sequencing of the part dealing with income distribution also has been changed. Chapters include key points, key concepts, problems, and appendices. Also available in two paperback editions separating chapters suitable for macroeconomics and microeconomics courses. Blomqvist and R. Wonnacott are at the University of Western Ontario and P. Wonnacott is at the University of Maryland. Study guide is available. Glossary; index.

EATWELL, JOHN; MILGATE, MURRAY AND NEWMAN, PETER, eds. *The new Palgrave: A dictionary of economics*. 4 vols. New York: Stockton Press; Tokyo: Maruzen; London: Macmillan Press, 1987. Pp. 3,500, approx. \$550.00. ISBN 0-935859-10-1, set. JEL 87-0973

A comprehensive dictionary to modern economics containing nearly 2,000 signed entries (by about 900 contributors) focusing on economic theory and doctrine in its varied aspects: analytical, empirical, quantitative, and methodological (including public policy). Aims to provide a thorough account of contemporary economics and to set the account in a historical perspective. Over 700 of the entries are biographical, emphasizing the individual's contribution to economic thought. Biographical entries cover both deceased and living economists who have reached their seventieth birthday by the end of 1985. Entries are arranged alphabetically by subject and include full bibliographic references in the text and cross references at the end; biographical entries also include lists of selected works. The dictionary contains about fifty entries reprinted from the original *Dictionary of Political Economy* (1894-99), edited by R. H. Inglis Palgrave. A complete list of headwords with one-line cross references appears at the beginning of each volume; cross references throughout the work direct the reader to entries where a particular topic is discussed under a different headword. Four appendices list: entries by author; biographies included in the original edition but not included in this edition; the contents of the original dictionary with the full name of each author; and subject entries in the new edition, by fifty-three fields, together with classification of biographies by country. Index.

GWARTNEY, JAMES D. AND STROUP, RICHARD L. *Economics: Private and public choices*. Fourth edition. With the assistance of A. H. STUDENMUND. San

Diego; London; Sydney and Toronto: Harcourt Brace Jovanovich, Academic Press, [1976...1982] 1987. Pp. xxx, 862. \$36.95. ISBN 0-15-518880-1. JEL 87-0974

Introductory textbook emphasizing the economic way of thinking. Focus of the macroeconomic section is changed from the Keynesian-cross model to a framework of a central multi-market model, including aggregate demand and supply analysis within the price-quantity framework. Integrates the basic aggregate markets—resources, loanable funds, goods, and services—from the beginning. Other features of the macroeconomic section include: the use of an open economy framework; emphasis on both changes in the price level and changes in output in achieving equilibrium in the aggregate goods and services market; integration of the natural unemployment rate and aggregate supply concepts; the presentation of schools of macroeconomics as debates over the structure of the central macroeconomic model; and a comprehensive discussion of the activism versus nonactivism stabilization policy debate. Microeconomic topics expanded or substantially revised include: the integration of the importance of property rights, transaction costs, and middlemen into the coverage of exchange theory and gains from trade; incorporation of recent developments on the significance of low barriers to entry and the theory of contestable markets into the theory of firm analysis; expanded coverage of deregulation; incorporation of recent empirical work on employment discrimination; a restructured focus of income distribution; expanded coverage of poverty and the analysis of income transfers; and the inclusion of a chapter on natural resources. Organizational features include: boxed articles reviewing myths of economics, applications of theory to real world situations, measures of economic activity, and outstanding economists; chapter focus questions and summaries; key terms; and discussion questions. A coursebook, test book for instructors, and instructor's manual are also available. Gwartney is Professor of Economics, Florida State University. Stroup is Professor of Economics, Montana State University. Glossary; index.

HAND, D. J. AND EVERITT, B. S., eds. *The statistical consultant in action*. Cambridge; New York and Melbourne: Cambridge University Press, 1987. Pp. xii, 189. \$34.50. ISBN 0-521-30717-1. JEL 87-0975

Twelve papers discuss experiences and issues in statistical consultancy. Topics include: consultants' careers; straight consulting; a two-period crossover trial; consultancy in a medical school; the analysis of response latencies; analysis of an

experiment on acid rain and tree roots; identifying yeasts and related problems; outlier allocation; collaboration between university and industry; inspection for faulty components in manufactured items; a project history of the statistical modeling of the EEC labor force survey. The contributors are statisticians. Hand and Everitt are at the Biometrics Unit, Institute of Psychiatry, London. Bibliography on statistical consulting; name and subject indexes.

HOGARTH, ROBIN M. AND REDER, MELVIN W., eds.
Rational choice: The contrast between economics and psychology. Chicago and London: University of Chicago Press, 1987. Pp. ix, 332. \$30.00. ISBN 0-226-34857-1. JEL 87-0976

Fourteen papers, with comments, presented at a conference held at the University of Chicago in October 1985 and previously published as a supplement to the October 1986 issue of *The Journal of Business*. Part 1 examines rationality in psychology and economics; decision making under ambiguity; and rational choice and the framing of decisions. Part 2 focuses on fairness and the assumptions of economics, and rational choice in experimental markets. Part 3 covers rationality and utility in evolutionary biology; psychological and social structure in economic models; the restrictiveness of the rational expectations hypothesis; and the behavioral foundations of public policy. Part 4 examines rationality of self and others in an economic system, and adaptive behavior and economic theory. Part 5 reviews behavioral rationality in finance and anomalies in financial economics. Hogarth is Professor of Behavioral Science at the University of Chicago Graduate School of Business and Director of the Center for Decision Research. Reder is Isidor and Gladys J. Brown Professor Emeritus at the University of Chicago Graduate School of Business. Index.

LADD, GEORGE W. *Imagination in research: An economist's view*. Ames: Iowa State University Press, 1987. Pp. viii, 146. \$9.95, paper. ISBN 0-8138-0987-8. JEL 87-0977

Analysis of the role of the unconscious mind in scientific research. Argues that unconscious mental processes are essential research tools, discusses some of their characteristics, and asserts that the very nature of conscious mental processes limits their use in invention. Analyzes the conditions that stimulate unconscious mental processes including doubt, a venturesome attitude, tolerance for uncertainty, diversity, thorough preparation, and sensitivity to similarities. Examines the role of luck in scientific research and means of harnessing it. Also discusses university training for creative scientists.

Ladd is Professor of Economics, Iowa State University. Index.

OTT, ALFRED E. AND STRECKER, HEINRICH, eds.
Jahrbücher für nationalökonomie und Statistik. Band 202: *Generalregister der Bände 131 (1929) bis 200 (1985)*. Stuttgart and New York: Fischer, 1986. Pp. viii, 498. DM 258.00, paper. ISBN 3-437-50307-3. JEL 87-0978

An index of articles and book reviews published in this journal from 1929 through 1985. Three introductory papers (in German) describe the history of the journal and its editors. Includes separate indexes to articles and book reviews, arranged alphabetically by the author of the article or the book. Also includes an alphabetical list of topics which refers to the article index and a review list which refers to the book review index.

RADNITZKY, GERARD AND BERNHOLZ, PETER, eds.
Economic imperialism: The economic approach applied outside the field of economics. Professors' World Peace Academy Book series. New York: Paragon House, 1987. Pp. ix, 421. \$21.95, cloth; \$12.95, paper. ISBN 0-943852-11-0. JEL 87-0979

Result of a workshop that led to a colloquium in Vienna in June 1984, sponsored by the Professors' World Peace Academy. Fourteen contributions explore the potential of the economic approach to human behavior in areas outside the traditional fields of economics. Part 1 introduces the reader to the economic approach and discusses: principles and prospects for general economy; the prospects and limitations of the economic approach to human behavior; and the nature and methodological foundations of recent extensions of economic theory. Part 2 applies the economic approach to the study of history, emphasizing economic considerations in history and the economic theory of democracy. Part 3 examines: norms as social capital; blackmail; intellectual styles and the evolution of American corporate law; and theory and application of the demand for life. Part 4 discusses the economics of scientific discovery and presents an application of the economic approach to the problems of the philosophy of science. Part 5 applies the economic approach to political science, focusing on conflict, autocracy, and the central problems of the constitution of a democracy. Contributors are mainly economists, sociologists, and lawyers. Radnitzky is Professor of the Philosophy of Science, University of Trier, West Germany. Bernholz is Professor of Economics at the Institute for Social Sciences, University of Basel, Switzerland. Name and subject indexes.

- TAMARI, MEIR. "With all your possessions." *Jewish ethics and economic life*. New York: Macmillan, Free Press; London: Collier Macmillan, 1987. Pp. xii, 340. \$22.50. ISBN 0-02-932150-6.

JEL 87-0980

Evaluation of Judaism and its relationship to economics. Drawing on legal, historical, and religious sources, the author traces how economic activity was traditionally guided and determined by the teachings of Judaism and its religious law. Considers attitudes toward economic activity such as finance, poverty, money, trade, and welfare as being tempered by understandings of the demands of justice, mercy, and righteousness. Covers a wide range of economic aspects—profits, wages, labor, money, banking, taxation, and welfare—as they are dealt with in Jewish sources. Tamari is Chief Economist, Office of the Governor of the Bank of Israel, Jerusalem. Bibliography; index.

020 GENERAL ECONOMIC THEORY

- BLACK, DUNCAN. *The theory of committees and elections*. Norwell, Mass.; Dordrecht and Lancaster: Kluwer Academic, 1987. Pp. xiii, 241. \$29.95. ISBN 0-89638-189-4.

JEL 87-0981

An exposition of the logic of committee decisions and elections. Part 1 deals with the theory of committees and elections, and covers: independent valuation; the representation of a motion; preference curves for a committee using a simple majority; cyclical majorities; members' scales of valuation; who ought to be elected; election in single member constituencies; proportional representation; committees using a special majority; the elasticity of committee decisions; groups of schedules corresponding to a given voting matrix; complementary motions in committees using a simple majority; and international agreements, sovereignty, and the cabinet. Part 2 presents the history of the mathematical theory of committees and elections. Black is Emeritus Professor of Economics at the University College of North Wales. Index.

- CALVERT, RANDALL L. *Models of imperfect information in politics*. Fundamentals of Pure and Applied Economics series, Political Science and Economics section, vol. 6. Chur, Switzerland; London; Paris and New York: Harwood Academic, 1986. Pp. viii, 62. \$18.00, paper. ISBN 3-7186-0321-7.

JEL 87-0982

Surveys the theoretical literature on the effects of imperfect information in politics, concentrating exclusively on treatments using the rational actor methodology. Focuses on models of electoral politics, noting topics in the modern economics of uncertainty that are applicable to important political questions. Examines the effects of imperfect infor-

mation for candidates, including probabilistic voting models, and the problem of rational participation. Considers principal-agent models and models of reputation effects in oligopoly. Concludes that many areas of politics remain untouched by models of imperfect information. Calvert is Associate Professor of Political Science and Resident Fellow of the Center for Political Economy, Washington University, St. Louis. Index.

- CAMPBELL, DONALD E. *Resource allocation mechanisms*. Cambridge; New York and Melbourne: Cambridge University Press, 1987. Pp. xiii, 183. \$34.50, cloth; \$12.95, paper. ISBN 0-521-26664-5.

JEL 87-0983

Analysis of the general welfare implications of individual decisions in systems in which coordination of individual activities is necessary to obtain a high level of overall welfare. Discusses alternative resource allocation mechanisms. Describes a set of performance criteria and examines their relevance to an Arrow-Debreu world. Analyzes the impact of uncertainty on welfare and investigates incentive compatibility. Examines the conditions under which competitive equilibrium exists and reviews the welfare properties of the Walrasian mechanism. Campbell is Professor of Economics at the University of Toronto. Author and subject indexes.

- CYERT, RICHARD M. AND DEGROOT, MORRIS H. *Bayesian analysis and uncertainty in economic theory*. Rowman and Littlefield Probability and Statistics Series. Totowa, N.J.; Littlefield, Adams; Rowman and Littlefield, 1987. Pp. xiv, 206. \$34.95. ISBN 0-8476-7471-1.

JEL 87-0984

Presents an application of Bayesian analysis to decision making under uncertainty in microeconomic theory. Reviews the main concepts of Bayesian decision theory and presents a behavioral and control theory of the firm. Discusses the application of Bayesian analysis to different problems in duopoly theory: multiperiod models in which each firm makes decisions in alternate periods; models of cooperation between firms; the kinked demand curve model; and linear-quadratic stochastic control problems. Examines the Bayesian approach to adaptive utility, capital allocation within firms, and rational expectations. Cyert is President and DeGroot is University Professor of Statistics and Industrial Administration, Carnegie-Mellon University. Author and subject indexes.

- DREZE, JACQUES H. *Essays on economic decisions under uncertainty*. Cambridge; New York and Melbourne: Cambridge University Press, 1987. Pp. xxvii, 424. \$39.50. ISBN 0-521-26484-7.

JEL 87-0985

Twenty papers by the author, all but one previously published, discuss topics in decision making under uncertainty. Examines: the general theory of decision making under uncertainty; markets and prices; consumer decisions; producer decisions; theory of the firm; human capital and labor contracts; and public decisions. Specific topics include: a review of the axiomatic theories of choice, cardinal utility, and subjective probability; market allocation under uncertainty; state-dependent utility, the demand for insurance, and the value of safety; a model of interdependent choice for earnings, assets, and savings; demand fluctuations, capacity utilization, and prices and costs; industry equilibrium under uncertainty; investment under private ownership; decision criteria for business firms; the firm in general equilibrium theory; human capital and risk-bearing; pricing, spending, and gambling rules for nonprofit organizations; and econometrics and decision theory. Drèze is at the Center for Operations Research and Econometrics in Louvain. Index.

ELIASSON, GUNNAR, ed. *The economics of institutions and markets: IUI Yearbook 1986-1987*. Stockholm: Industrial Institute for Economic and Social Research, Research Program, 1987. Pp. 260. Free. paper. ISBN 91-7204-275-3. JEL 87-0986

Thirteen papers discuss topics related to the economics of institutions and markets. One paper outlines the need for and the nature of institutional economics. Four papers analyze institutional change and macroeconomic performance in various sectors. Five papers examine institutions and market processes with examples from the Swedish economy. Three papers evaluate the theoretical support for policy. Also contains details on current and recently completed research projects as well as other activities at the Industrial Institute for Economic and Social Research. No index.

FEIWEL, GEORGE R., ed. *Arrow and the ascent of modern economic theory*. New York: New York University Press, 1987. Pp. liv, 696. \$75.00. ISBN 0-8147-2582-1. JEL 87-0987

Twenty-three essays and interviews examine the ascent of modern economics and the works of Kenneth Arrow, emphasizing his contributions to, and impact on, both the theoretical and applied economics, and moral and political philosophy of our age. An introduction by the editor examines the contributions of Arrow from the perspective of the potentials and limits of economic analysis. Part 1 presents interviews by the editor with leaders in the development of modern general equilibrium theory. Part 2 focuses on Arrow's impact on mathematical method in economics and on application

of general equilibrium theory, and contains an essay on Arrow's vision of the economic process followed by four interviews. Essays in part 3 emphasize the theory of resource allocation and topics include: the nonexistence of equilibrium; equilibria of bid-ask markets; general equilibrium analysis of imperfect competition; Arrow and the theory of discrimination; and information disclosure and the economics of science and technology. Part 4 discusses decision making under uncertainty, focusing on: von Neumann-Morgenstern utilities, risk taking, and welfare; Arrow-Bayes equilibria; rational learning and rational expectations; and oligopolistic uncertainty and optimal bidding in government procurement. Concludes with Arrow's own reflections on the essays. Feiwel is Alumni Distinguished Service Professor and Professor of Economics at the University of Tennessee. Index.

FEIWEL, GEORGE R., ed. *Arrow and the foundations of the theory of economic policy*. New York: New York University Press, 1987. Pp. lxiii, 758. \$75.00. ISBN 0-8147-2583-X. JEL 87-0988

Thirty-six essays and interviews examine the foundations of the theory of economic policy and the contributions of Kenneth Arrow. The introduction consists of an article by the editor on the many dimensions of Arrow and an essay on social choice theory. Essays in part 1 deal with social choice and utilitarianism, and discuss: ordinal utilitarianism; reconciling Arrow's theory of social choice with Harsanyi's fundamental utilitarianism; Arrow and the problem of social choice; and utilitarianism and modern economics. Part 2 focuses on welfare and distribution, and examines: the fair allocation of indivisible goods; income distribution and differences in needs; and the tension theory of welfare. Part 3 examines growth, choice, and the use of resources, and specific topics include: the life-cycle hypothesis as a tool of theory and policy, and the credit mechanism and its implications. Part 4 discusses the limits of organization and alternative approaches, focusing on: Arrow and the new institutional economics and economic aspects of trust. Part 5 contains essays and interviews on the images of Arrow, and part 6 presents Arrow's reflections on the essays. Feiwel is Alumni Distinguished Science Professor and Professor of Economics at the University of Tennessee. Index.

FLETCHER, GORDON A. *The Keynesian revolution and its critics: Issues of theory and policy for the monetary production economy*. New York: St. Martin's Press, 1987. Pp. xxiii, 348. \$35.00. ISBN 0-312-45360-8. JEL 87-0989

Focuses on criticisms of the Keynesian revolution, judging the case against Keynes by reference

to his principal critics—D. H. Robertson, Milton Friedman, F. A. Hayek and, "vicariously," Georg Simmel. Describes what the Revolution was, why it took place, and what it achieved. Assesses the extent to which Keynesian principles remain valid in, and relevant to, the current environment. Bases much of the description of Keynes's economics on the *General Theory* and the controversy that ensued. Examines the apparent failure and disenchantment with Keynesianism, and the upsurge of Austrian and monetarist philosophy in the 1970s, especially as the problem of inflation was being reduced at the expense of employment. Concludes that the problems of the postwar Keynesian political economy must be distinguished from the core of Keynes's theory and that Keynesian principles remain valid. Fletcher is Lecturer in Economics, University of Liverpool. Index.

FUJINO, SHOZABURO. *Money, employment, and interest: Towards a reconstruction of Keynesian economics*. Hitotsubashi University Institute of Economic Research Economic Research Series, no. 23. Tokyo: Kinokuniya; distributed in the United States by New York Kinokuniya Bookstores, 1987. Pp. xii, 220. ISBN 4-314-00464-9.

JEL 87-0990

Analysis of key issues in macroeconomics: demand restriction in the monetary economy and involuntary unemployment; demand uncertainty; aggregate demand and aggregate supply functions; and the theory of interest. Contends that the assumption of perfect competition must be abandoned in the analysis of output and prices because it contradicts the fundamental property of the monetary economy. Topics include: the logical structure of the monetary economy and the asymmetry of demand and supply; the postulates of classical economics, and the permanent supply of labor and the asymmetry of the firm and household; the principle of effective demand, and supply and involuntary unemployment; demand uncertainty and output-inventory decisions; demand uncertainty and output-backlog decisions; demand uncertainty and the theory of investment; aggregate demand and supply functions; and liquidity-preference versus loanable-funds theories of interest. Fujino is Professor of Economics at the Institute of Economic Research, Hitotsubashi University. Name and subject indexes.

HALL, PETER A. *Governing the economy: The politics of state intervention in Britain and France*. Europe and the International Order series. New York: Oxford University Press, 1986. Pp. 341. \$36.00, cloth; \$14.95, paper. ISBN 0-19-520523-5.

JEL 87-0991

Analysis of the political dimensions of economic policy making in Britain and France over the postwar period. Contends that economic policy making must be understood as an essentially political process, conditioned by struggles among competing parties, ideologies, and social classes. Develops an institutional approach to the explanation of policy outcomes, examining the role of markets and the state in British economic decline, patterns of British economic policy, Keynesianism, and the conservative Thatcher experience. Analyzes the political role of economic planning in France, the role of the state in planning, and the socialist experiment of Mitterand. Presents comparative perspectives, covering broad patterns of macroeconomic, industrial, and incomes policy in Britain, France, and Germany. Concludes with a discussion of the organization of state-society relations in Britain and France, focusing on the interaction of interests, institutions, and ideas in the policy process. Hall is Assistant Professor of Government at Harvard University. Bibliography; index.

HSIEH, CHING-YAO AND MANGUM, STEPHEN L. *A search for synthesis in economic theory*. Armonk, N.Y. and London: Sharpe, 1986. Pp. xii, 268. ISBN 0-87332-328-9.

JEL 87-0992

Published in an earlier version entitled *A Search for Synthesis*, this book is designed for graduate and advanced undergraduate students in economics as well as a wider audience. Analyzes the apparent crisis in economic theory and explores areas of common ground in economics. Part 1 provides a contemporary reinterpretation of classicism, reviewing the supply-side economics of Adam Smith and David Ricardo, the demand-side economics of Thomas Robert Malthus, and the nature of causality in classical economics. Part 2 presents contemporary reinterpretations of the neoclassical synthesis, and includes a review of the golden age of the neoclassical synthesis and a discussion of the revisionists of this synthesis. Part 3 focuses on contemporary reinterpretations of post-Keynesianism. Part 4 examines the widening common ground in economic theory, discussing the work of Jean-Pascal Benassy and Franklin M. Fisher as well as post-Keynesian microfoundations and other non-Walrasian approaches. Hsieh is Professor of Economics at George Washington University. Mangum is Assistant Professor of Management and Human Resources at Ohio State University. Bibliography; no index.

KEBARDJIAN, GÉRARD. *Les modèles théoriques de la macroéconomie (Theoretical models of macroeconomics)*. Collection: Economie "Module." Paris: Dunod; distributed in North America by Diffu-

livre, Montreal, 1987. Pp. xiv, 192. Fr 115.00, Can\$ 34.00, paper. ISBN 2-04-016830-X.

JEL 87-0993

Intermediate level textbook, providing a synthesis of major theoretical models presented in macroeconomics, using a unified system of accounts to allow for comparisons: classical, Keynesian, post-Keynesian, neoclassical, and Marxian. Includes a number of review problems. A technically simplified presentation allows the student to identify the basis of the controversies in current debates on the proper contribution of each model. Kebabdjian is Professor at the University of Reims, France, and President of the Centre de Recherches sur les Mutations des Sociétés Industrielles. Bibliography; name and subject index. [Jean Mirucki]

LAVOIE, MARC. *Macroéconomie: Théorie et controverses postkeynésiennes (Macroeconomics: Theory and post-Keynesian controversies)*. Collection: Sciences économiques. Paris: Dunod/Éditions Bo-Pré; distributed in North America by Diffulivre, Montreal, 1987. Pp. x, 220. Fr 149.00, Can\$ 44.00, paper. ISBN 2-04-016904-0. JEL 87-0994

Graduate textbook providing a critique of the foundations of traditional macroeconomics and proposing a possible alternative: a post-Keynesian approach applied to growth and distribution. Refutes the logic of the aggregate neoclassical theory in both the static and the dynamic models. Presents the "School of Cambridge" approach with special emphasis on the situational framework and its impact on growth: the role of the state and of the investors, the objectives of full employment and the behavior of the firm, the presence of financial markets, and the role of money. Lavoie is Professor at the University of Ottawa. Bibliography; subject index. [Jean Mirucki]

MARGLIN, STEPHEN A. *Growth, distribution, and prices*. Paperback reprint. Harvard Economic Studies series, vol. 155. Cambridge, Mass. and London: Harvard University Press, [1984] 1987. Pp. x, 573. \$11.95, paper. ISBN 0-674-36415-5.

JEL 87-0995

Paperback reprint. [See JEL no. 85-0356 for annotation of first edition and Volume 23, no. 4, the December 1985 issue, for review.]

MERKHOFFER, MILEY W. *Decision science and social risk management: A comparative evaluation of cost-benefit analysis, decision analysis, and other formal decision-aiding approaches*. Technology, Risk, and Society series. Norwell, Mass.; Dordrecht; Lancaster and Tokyo: Kluwer Academic, Reidel, 1987. Pp. xiv, 330. \$49.00. ISBN 90-277-2275-7. JEL 87-0996

Differentiates, compares, and assesses alternative approaches to aid decision making. Focuses on approaches that: are applicable to social decisions involving risks; provide quantitative decision criteria, theoretical rationale, and practical procedures for identifying a "best" alternative; and have practical applications experience. Discusses the social risk-management problem. Distinguishes and describes alternative decision aiding approaches and outlines their principle criticisms and limitations. Concludes with a comparative evaluation of decision aiding approaches. Appendices present: a cost-benefit analysis of mobile-source sulfur oxide emission control; a decision analysis of alternative government policies for commercial cryptography; and an application of applied social welfare theory to space-mission planning. Merkhofer is with Applied Decision Analysis, Inc. Name and subject indexes.

MIROWSKI, PHILIP, ed. *The reconstruction of economic theory*. Recent Economic Thought Series. Norwell, Mass.; Dordrecht and Lancaster: Kluwer Academic, Kluwer-Nijhoff, 1986. Pp. 266. \$42.50. ISBN 0-89838-211-4. JEL 87-0997

Seven essays consider orthodoxy and divergence in economic theory. In the introductory essay, Mirowski identifies neoclassical economic theory and a European variant of Marxism as "hard core" schools of economic thought and describes a "third stream" of economic theory. David P. Levine presents a reconceptualization of classical economic theory. David P. Ellerman discusses property appropriation and economic theory. Randall Bausor examines time and equilibrium. Donald W. Katzner analyzes the role of formalism in economic thought with illustrations drawn from an analysis of the social interaction of the firm. Mirowski, in two essays, discusses mathematical formalism and economic explanation, and institutions as solution concepts in a game theory context. Mirowski is a member of the Department of Economics at Tufts University. Index.

TOBIN, JAMES. *Essays in economics*. Volume 1. *Macroeconomics*. Reprint. Cambridge, Mass. and London: MIT Press, [1971] 1987. Pp. xvi, 526. \$60.00. ISBN 0-262-20062-7. JEL 87-0998

Reprint of the volume covering Tobin's work in macroeconomics from the early 1940s to 1970. Twenty-four essays are divided into three parts, focusing on macroeconomic theory, economic growth, and money and finance. Part 1 contains articles on the effects of a general change in money wage rates on employment, liquidity preference and monetary policy, short-run macro effects of income taxation, the role of the size and compos-

tions of wealth in the determination of economic activity, tax incentives to induce savings, and distribution theory. Part 2 has selections concerned with the interrelations between monetary phenomena and growth, economic growth as an objective of government policy, and neoclassical growth with fixed factor proportions. Part three examines the interest elasticity of transactions demand for cash, liquidity preference as behavior toward risk, commercial banks as creators of money, financial intermediaries and the effectiveness of monetary controls, a general equilibrium approach to monetary theory, deposit interest ceilings, debt management, pitfalls in financial model buildings, monetary policy and debt management, and monetary interpretation of history. Tobin is Sterling Professor of Economics at Yale and the 1981 Nobel Laureate in Economics. Index.

AN MEERHAEGHE, M. A. G. *Economic theory: A critic's companion*. Second revised edition. Hingham, Mass.; Dordrecht and Lancaster: Kluwer Academic, Martinus Nijhoff, [1960] 1986. Pp. x, 125. \$32.50. ISBN 90-247-3385-5. JEL 87-0999

Reorganized and updated second edition supplement to introductory courses in economics. [See JEL no. 80-0916 for annotation of first edition.] Offers critical comments on: the traditional economic theory of consumer and producer behavior; pricing theory; income distribution; the equilibrium level of national income and prices; economic growth; and international trade. Contains new chapters on the relationship between economic doctrines and economic policy, and economic theory and economic policy. Concludes with an assessment of the practicability and significance of economic theory. Meerhaeghe is at the University of Ghent. Author and subject indexes.

RIEZE, O. J. *Stochastic games with finite state and action spaces*. CWI Tract series, no. 33. Amsterdam: Centre for Mathematics and Computer Science, 1987. Pp. 221. Dfl 34.20, paper. ISBN 90-6196-313-3. JEL 87-1000

Analysis of two-person, zero-sum stochastic games with finite state space and finite action spaces for both players. Part 1 presents the model of the two-person, zero-sum stochastic game and discusses what happens when playing against a fixed strategy. Part 2 presents a review of discounted stochastic games, and discusses their structural properties and algorithms. Part 3 focuses on average reward stochastic games and discusses: their history; the limit discount equation; and the structural properties of, and algorithms for, undiscounted stochastic games. Author, subject, and symbol indexes.

ZARTMAN, I. WILLIAM, ed. *The 50% solution: How to bargain successfully with hijackers, strikers, bosses, oil magnates, Arabs, Russians, and other worthy opponents in this modern world*. Paperback reprint. New Haven and London: Yale University Press, [1976] 1987. Pp. viii, 552. \$40.00, cloth; \$14.95, paper. ISBN 0-300-03033-9, pbk.

JEL 87-1001

Reprint, with updated bibliography, of seventeen essays presenting an array of case histories of negotiations involving states, terrorists, multinationals, and labor unions, among others. An introductory essay by the editor discusses the analysis of negotiation. Essays examine: permanent negotiations; structural analysis and its alternatives; communications analysis and related approaches; sovereign and other parties as negotiators; and explanation and prediction. Zartman is Professor of International Politics at the School for Advanced International Studies at Johns Hopkins University. Bibliography; index.

See also: Book Numbers JEL 87-0976, 87-0982, 87-0983, 87-0984, 87-0988, 87-0996, 87-1004, 87-1028, 87-1045, 87-1049, 87-1058, 87-1113, 87-1137

030 HISTORY OF ECONOMIC THOUGHT; METHODOLOGY

BLACK, R. D. COLLISON, ed. *Ideas in economics*. Totowa, N.J.: Barnes and Noble Books, 1986. Pp. x, 246. \$27.50. ISBN 0-389-20644-X.

JEL 87-1002

Ten papers originally presented to Section F of the British association for the Advancement of Science at its 1985 meeting at the University of Strathclyde. Contributions are concerned with the ideas of the great economists of the past. Begins with an essay by the editor on the history of economic thought. Seven essays examine: Adam Smith's system of moral science and his treatment of public policy, James Stewart's corporate state, Jeremy Bentham's democratic despotism, David Ricardo's treatment of wages, John Stuart Mill and implications for modern economics, Karl Marx's *Capital* today, and the continuing relevance of Alfred Marshall. Two additional essays discuss the meaning of monetarism and the existence of monetarist ideas in the earlier writings of British economists, and John Maynard Keynes as a revolutionist. Black was Professor and Head of the Department of Economics at the Queen's University of Belfast from 1962 until his retirement in 1985. Index.

BRAYBROOKE, DAVID. *Philosophy of social science*. Foundations of Philosophy Series. Englewood

Cliffs, N.J.: Simon and Schuster, Prentice-Hall, 1987. Pp. viii, 136. Paper. ISBN 0-13-663394-3.

JEL 87-1003

Presents three views of social science: the interpretative, which tells us when actions are appropriate and what expectations they give rise to; the naturalistic, which looks for various conditions that make the occurrence of certain phenomena more probable; and the critical, which raises questions about meanings and rules. Examines the relationship between these three views and gives examples of each approach. Discusses four basic questions for the philosophy of science: cross-cultural, humanism-scientism, individualism-collectivism, and fact-value questions. Discusses intentionality and the distinction between reasons and causes. Examines causal regularities on the naturalistic side and settled social rules on the interpretative side. Argues that in some questions and methods critical social science may be reduced to the naturalistic and interpretative views, and examines mutual support between these two remaining sides. Concludes with a discussion of mutual presupposition between the naturalistic and interpretative sides of social science. Braybrooke is at Dalhousie University. Index.

BRIDEL, PASCAL. *Cambridge monetary thought: Development of saving-investment analysis from Marshall to Keynes*. New York: St. Martin's Press, 1987. Pp. x, 227. \$32.50. ISBN 0-312-11441-9.

JEL 87-1004

Revised version of the author's Ph.D. thesis written for the University of Cambridge over the period 1977-81. Critically evaluates the origin and development of the savings-investment technique of analysis undertaken by various members of the Cambridge School in the first part of this century. Examines Alfred Marshall's analytical framework, which underlies the interest-elastic investment-demand and saving-supply curves and the determination of the equilibrium rate of interest. Reviews Marshall's primitive version of the cumulative process resulting from his analysis of the relation between money, interest, and prices. Discusses the early contributions of R. G. Hawtrey, D. H. Robertson, J. M. Keynes, F. Lavington, and A. C. Pigou, and the systematic coordination and extension of these contributions by Robertson and Keynes. Provides further reflections on the rate of interest and examines the *General Theory* and the principle of effective demand. Bridel is Professor of Economics at the University of Lausanne, Switzerland. Bibliography; index.

GREEN, DAVID G. *The new conservatism: The counter-revolution in political, economic and social*

thought. New York: St. Martin's Press, 1987. Pp. xi, 238. \$32.50. ISBN 0-312-00477-X.

JEL 87-1005

Examines the impact of the "new liberalism" of the Thatcher and Reagan governments, and the gap between new liberal thought and practical politics. Part 1 explains the historical roots of the new philosophy and describes the central themes of the main schools representing this thinking. Reviews how Western liberalism developed from seventeenth-century roots, featuring economic and religious individualism. Considers three closely related traditions—anarcho-libertarianism, minimal statism, and objectivism. Describes, in detail, Milton Friedman and the Chicago School, the public choice school, and Friedrich von Hayek and the Austrian School. Part 2 describes the political agenda of the new liberalism and its impact on public policy, with particular reference to education, social security, health, housing, the environment, the economy, industry, and agriculture. Concludes that the common theme among "new right" philosophies is that individuals should be able to direct their own lives to a greater extent than is now possible, and that although the impact on practical politics has been "patchy," there is a changing agenda in academic and political arenas. Green is Research Fellow at the Institute of Economic Affairs. Index.

LANGER, GARY F. *The coming of age of political economy, 1815-1825*. Contributions in Economics and Economic History series, no. 72. New York and London: Greenwood Press, 1987. Pp. x, 224. \$35.95. ISBN 0-313-25645-4. JEL 87-1006

Examination of how and why political economy came of age in Britain during the first third of the nineteenth century. Describes the origins and character of the scientific tradition in which the political economists of the period 1815-25 saw themselves participating. Reviews the careers of the celebrated masters of political economy—David Ricardo, Thomas Malthus, John McCulloch, and Robert Torrens. Examines the allies and opponents of political economy. Discusses the relationship of political economy to the reform of the monetary system and to the depression of 1819-21. Reviews the relationship of the science to the free trade movement and examines the relation of the activities of the political economist and their allies to the situation of the propertyless laborer. Langer is Assistant Professor of Economics at Roosevelt University. Bibliography; index.

MILL, JOHN STUART. *Principles of political economy, with some of their applications to social philosophy*. Reprint of 1909 London edition. Edited with

an introduction by SIR WILLIAM ASHLEY. Reprints of Economics Classics series. Fairfield, N.J.: Kelley, [1848 . . . 1909] 1987. Pp. liii, 1013. \$47.50, cloth; \$24.95, paper. ISBN 0-678-01453-1, pbk.

JEL 87-1007

Reprint of the 1909 "new" edition, incorporating the seventh edition (1871) text, the last edition revised by Mill. An introduction by Sir William Ashley discusses aspects of Mill's life that influenced his political and economic thinking. Notes that Mill regarded the distinction between the laws of production and those of the distribution of wealth as the most distinguishing characteristic of his work. Includes prefaces to all seven editions and indicates changes in editions in the notes. Discusses many of the topics still found in principle texts such as international demand, economies of scale, joint products, opportunity costs, interest, rent, increasing returns, competition, agents of production, wage differentials, utility and costs in relation to value, money, credit, foreign exchange, and the influence of government. Bibliographical notes; index.

See also: Book Numbers JEL 87-0987, 87-0988, 87-0989, 87-0997

040 ECONOMIC HISTORY

COLTON, JOEL AND BRUCHEY, STUART, eds. *Technology, the economy, and society: The American experience*. New York: Columbia University Press, 1987. Pp. xiii, 287. \$35.00. ISBN 0-231-05964-7.

JEL 87-1008

Ten contributions, plus an introduction by the editors, explore the impact of technological change from colonial times to the present. Specific topics include: technological innovation and social change in the United States, 1870-1980; technology and the transformation of industrial organization; the impact of technology on American legal development, 1790-1985; technology and the transformation of the American party system; the impact of technological change on urban form; technological change and the American worker and farm movements; the impact of technological change on social structure in the United States Navy; the impact of technology on American education, 1880-1980; and the impact of technology on American religion. Contributors are mainly historians. Colton is Professor of History at Duke University. Bruchey is Allan Neving Professor of American Economic History at Columbia University. No index.

COOPER, FREDERICK. *On the African waterfront: Urban disorder and the transformation of work in*

colonial Mombasa. New Haven and London: Yale University Press, 1987. Pp. xvi, 290. \$27.50. ISBN 0-300-03618-3.

JEL 87-1009

Argues that the strike wave that passed through major cities and mining regions of Africa from the mid-1930s through the early 1950s created a crisis of ideas that undermined colonial conceptions of African labor and society and government's confidence that they could control the new social and economic forces. Uses the related history of strikes in Mombasa, Kenya, in the 1930s and 1940s to study how a government discovered the dangers and complexities of the existence of an African working population and how, in this instance, the British government attempted to transform a rapidly circulating labor force into a stable one rooted in urban residence and an urban way of life. Specific topics include: capitalist work discipline and the East African society; Mombasa society prior to the strikes; dockwork and disorder in Mombasa from 1934-47; the reorganization of dockwork; trade unionism up to 1963; and work, disorder, and the crisis of colonialism in Africa. Cooper is Professor of African History, University of Michigan. Index.

ELTIS, DAVID. *Economic growth and the ending of the transatlantic slave trade*. New York; Oxford; Toronto and Melbourne: Oxford University Press, 1987. Pp. xiii, 418. \$39.95. ISBN 0-19-504135-6.

JEL 87-1010

Examines the role of the slave trade in the nineteenth-century Atlantic economy. Part 1 discusses antislavery in the context of British expansion and industrialization, highlighting capitalism and abolition in Britain, and the origin and impact of antislavery and the labor problem. Part 2 examines the Atlantic slave system from 1760 to 1830, and focuses on: the market for slaves at the close of the legal slave trade; the restructuring of the slave trade, 1780s to the 1820s; and Africa and the initial impact of abolition. Part 3 reviews the abolitionist assault on slave traffic, 1820-50. Part 4 discusses the economic and political aspects of the illegal slave trade between 1820 and 1870, and part 5 examines the midcentury Atlantic economy and final suppression, 1830-70, focusing on the consequences of suppression in Africa and the Americas. Appendixes present statistical information on: the volume of the transatlantic slave trade, 1781-1867; age, sex, and price of slaves in trade after 1810; slave trade mortality; costs and profits in the illegal slave trade; plantation output and productivity estimates in the nineteenth-century Americas; and exchange rates and price level adjustments. Eltis is College Master at Algonquin College, Ontario. Index.

GOULD, MARK. *Revolution in the development of capitalism: The coming of the English Revolution*. Berkeley and London: University of California Press, 1987. Pp. xxvii, 508. \$48.00, cloth; \$14.95, paper. ISBN 0-520-06101-2, pbk.

JEL 87-1011

Examines the seventeenth century English social structure, focusing on the genesis of revolution within that structure and the consequences of revolution for the transformation of the structure. Outlines the theoretical assumptions and conceptual tools that serve as the foundation of the work. Analyzes the conditions determining the level of production within economic and political subsystems and the conditions of stability for these systems. Presents a theory of internal disorder, and formulates a model of prerevolutionary English social structure, specifying the patterned constraints within this social structure and analyzing the tendencies these constraints define. Presents a historical examination of the English revolutions of the seventeenth century and a stage sequence model of social development defined to be applicable to all social and action systems. Argues that the seventeenth-century English revolutions led to the creation of political conditions that, joined with the tendencies of a rationalized manufacturing system, allowed for the genesis of machine capitalism. Gould is Associate Professor of Sociology at Haverford College, Pennsylvania. Bibliography; index.

KNAPMAN, BRUCE. *Fiji's economic history, 1874-1939: Studies of capitalist colonial development*. Pacific Research Monograph series, no. 15. Canberra: National Centre for Development Studies, Research School of Pacific Studies, Australian National University, 1987. Pp. xi, 153. Paper. ISBN 0-86784-977-0.

JEL 87-1012

Assesses the impact of capitalism in Fiji during the first sixty-five years of British colonial rule. Examines capitalist export growth and the dominance of the colonial Sugar Refining Company; continuity and change in the noncapitalist economy; the demise of the white sugar planter; shipping dependency; the degree of market control and profitability of merchant capital; and monetary dependency and the political economy of exchange-rate policy. Concludes that Fiji's economic development under colonialism, although uneven and exploitative, did not impoverish the country or damage the prospects of long-term development and succeeded in raising the absolute level of income and establishing the foundation for postwar growth. Knapman is Lecturer in Economics at the School of Finance and Economics, New South Wales Institute of Technology. No index.

KOLCHIN, PETER. *Unfree labor: American slavery and Russian serfdom*. Cambridge, Mass. and London: Harvard University Press, Belknap Press, 1987. Pp. xiv, 517. \$25.00. ISBN 0-674-92087-X.

JEL 87-1013

Examines Russian serfdom and American slavery as the basis for a comparative study of unfree labor. Finds both similarities and differences between Russian and American bondage; they are similar in that they merged on the periphery of an expanding Europe in the sixteenth and seventeenth centuries under conditions of widespread labor scarcity and became entrenched as systems of agricultural production based on forced labor, and differ because of their respective historical environments. Describes events in both Russia and the American South, and interweaves them with comparative sections organized around themes relevant to both. Part 1 presents the world of the masters in both systems and details their management, treatment, and defense of unfree labor. Part 2 analyzes the community and culture in Russia and the American South, and examines the causes, consequences, and patterns of resistance by the bondsmen. The epilogue brings together the predominant themes of the book, and considers the crises that unfree labor faced in Russia and the American South by the middle of the nineteenth century. Kolchin is Professor of History, University of Delaware. Index.

LIMERICK, PATRICIA NELSON. *The legacy of conquest: The unbroken past of the American West*. New York and London: Norton; Markham, Ontario: Penguin Books Canada, 1987. Pp. 396. \$17.95. ISBN 0-393-02390-7.

JEL 87-1014

Examines the West as an important meeting ground where different racial groups intersected and were tied together by the workings of conquest. Argues that the intersection of ethnic diversity with property allocation unifies Western history. Part 1 examines: an empire of innocence, property values; denial and dependence; uncertain enterprises; and the meeting ground of past and present. Part 2 discusses: the persistence of natives; racialism on the run; America the borderland; mankind the manager; and the burdens of western American history. Limerick teaches history at the University of Colorado. Index.

PERROT, MICHELLE. *Workers on strike: France 1871-1890*. Translated from the French by CHRIS TURNER with the assistance of ERICA CARTER and CLAUDE LAUDET. New Haven and London: Yale University Press; Leamington Spa, England: Berg, [1984] 1987. Pp. 321. \$27.50. ISBN 0-309-03849-8.

JEL 87-1016

Analysis of strikes in France in the latter part of the nineteenth century. Originally published in French as *Jeunesse de la Grève: France 1871-1890* in 1964. Examines the origin of both sudden and announced strikes and the organizations and ring-leaders involved in the running of a strike. Discusses various strike methods as well as the nature of participation in strikes. Assesses the material circumstances of strikers and describes the form, sources, and extent of assistance available to them. Reviews the actions, meetings, and language employed in strikes to highlight the collective life of strikers. Analyzes the results of strikes and the role of employers, the state, and society. Concludes: that strikes were proletarian in character and derived their support from the middle layers of the working class; that the nature of the strike was influenced by type of occupation; and that the strike is a social process rather than an empty form. Perrot is Professor of History at the University of Paris. Select bibliography; no index.

POTTER, BEATRICE. *The co-operative movement in Great Britain*. Third edition. Aldershot, England and Brookfield, Vt.: Gower in association with the London School of Economics and Political Science, [1891, 1893] 1987. Pp. xxxvii, 260. \$53.95. ISBN 0-566-05143-5. JEL 87-1017

First published in 1891 with a second edition published in 1893 that included an index and minor corrections. Current edition includes a nineteen page preface by Dame Margaret Cole. Describes the origin and growth of the British Co-operative Movement as a form of democratic association representing one aspect of the larger movement toward industrial democracy, which characterized the history of the nineteenth century British working class. Begins with a discussion of the cooperative idea, stimulated by the conditions stemming from the early years of the Industrial Revolution. Presents a history of the British movement and describes the cooperative store and the principles behind its operation. Reviews the development of the idea of federation whereby the independent stores ceded some powers to a central body. Examines associations of producers as a brotherhood of workers controlling the organization and retaining profits and discusses the cooperative movement as a state within a state. Index.

RITTER, GERHARD A. *Social welfare in Germany and Britain: Origins and development*. Translated from the German by KIM TRAYNOR. New York and Leamington Spa, England: Berg; distributed in North America by St. Martin's Press, New York, [1983] 1986. Pp. xi, 211. \$25.50. ISBN 0-607582-46-4. JEL 87-1018

This account of the evolution of the social welfare system in Germany and Britain was originally published in German as *Sozialversicherung in Deutschland und England, Entstehung und Grundzüge im Vergleich*. Reviews the social concerns and social insurance in Europe in the late nineteenth century. Examines the state and social insurance in Germany before 1914, focusing on: the impact of the rise of the labor movement and the economic crisis upon social concerns; the motives for, and characteristics of, social insurance legislation in the 1880s; the attitude of political and social forces toward worker's insurance; and the effects of social insurance legislation. Discusses mass poverty and social reform in Britain at the turn of the century, examining: the delayed development of state social insurance; the causes of social and political reform efforts; liberal reform policy between 1906 and 1914; and the supporters of social legislation and the effect of reform. Compares the varying political motives, financing, and social forces and political institutions that shaped the structure of social insurance in these two countries before World War I. Ritter is Professor of Modern History at the University of Munich. Select bibliography; index.

SCHICK, IRVIN CEMIL AND TONAK, ERTUĞRUL AHMET, eds. *Turkey in transition: New perspectives*. With translations by REZAN BENATAR, IRVIN CEMIL SCHICK AND RONNIE MARGULIES. New York; Oxford; Toronto and Melbourne: Oxford University Press, 1987. Pp. xii, 405. \$39.95. ISBN 0-19-504095-3. JEL 87-1019

Thirteen papers, three previously published and revised, reflect upon economic and political trends in Turkey since World War I. Part 1 deals with its political development and covers the Ottoman heritage; the political economy of Turkish democracy; and the periods of monopoly and multiparty rule. Part 2 assesses the nature of political forces and examines the left, the ultranationalist right, the religious right, and the army. Part 3 focuses on Turkey's economic development and discusses: the process of agrarian change over 1923-70; economic development and crisis during 1950-80; changes in wage labor and unionization; and trade, aid, and debt. A final paper evaluates the changes in the decade before the military takeover of 1980 and examines prospects for the future. The contributors are mainly political scientists. Schick is a research scientist. Tonak teaches economics at Simon's Rock of Bard College, Great Barrington, Massachusetts. Index.

SOMMARIVA, ANDREA AND TULLIO, GIUSEPPE. *German macroeconomic history, 1880-1979: A study of the*

effects of economic policy on inflation, currency depreciation and growth. Foreword by CLIFFORD WYMER. New York: St. Martin's Press, 1987. Pp. xx, 264. \$35.00. ISBN 0-312-32588-6.

JEL 87-1030

Detailed analysis of the macroeconomic developments in Germany from 1890 to 1970. Examines the causes of economic growth and inflation, the effects of war destruction, and the consequences of the growth of the government sector. Analyzes the behavior of the Reichsbank and the international gold flows from 1876-1913. Surveys the empirical literature on the German hyperinflation of 1919-23 and develops a three-equation model of inflation and exchange-rate determination which allows for currency substitution and deviations of the exchange rate from purchasing power parity. Reviews the causes of the depression of 1929-33 in Germany, and presents a disequilibrium macroeconomic growth model of the German economy incorporating the quantity theory of money and the Fisher equation as long-run laws of economics. Sommariva is Economic Advisor at the Istituto Bancario San Paolo di Torino and lecturer at New York University. Tullio is Economic Advisor to the Commission of the European Communities in Brussels. Bibliography; index.

SPIER, HANS. *German white-collar workers and the rise of Hitler*. Translation. New Haven and London: Yale University Press, [1977] 1986. Pp. xxv, 206. ISBN 0-300-03701-5.

JEL 87-1021

Originally published in German as *Die Angestellten vor dem Nationalsozialismus: Ein Beitrag zum Verständnis der deutschen Sozialstruktur 1918-1933* in 1977. Examines the status competition between German white collar workers and both the older bourgeoisie and the new industrial and blue collar working classes; shows how this struggle affected the structure of the state and the prospects for revolution. Covering the years from 1918 until 1933, the book discusses: the various strata among white collar workers; social origins of salaried employee's; promotion; social stratification; relations with blue collar workers and entrepreneurs; the foundations of social rank and respect; the nature of hierarchy within enterprises and notions of class membership; and the role of education. Evaluates white collar response to nationalism and the nature of white collar organizations. Speier is Robert M. M. MacIver Professor Emeritus in Sociology and Political Science at the University of Massachusetts, Amherst. Bibliography; index.

TEICHOVA, ALICE; LEVY-LEBOYER, MAURICE AND NUSSEBAUM, HELGA, eds. *Multinational enterprise in historical perspective*. Cambridge: New York

and Melbourne: Cambridge University Press, Paris: Editions de la Maison des Sciences de l'Homme, 1986. Pp. x, 396. \$49.50. ISBN 0-521-32040-2.

JEL 87-1022

Twenty-five papers published as part of the preparation for the Ninth International Economic History Congress that was held in Berne in August 1986 where one of the themes involved multinational enterprise (MNE). Introduction reviews criticisms of MNEs. Papers in the first part deal with the growth of MNEs, presenting a critique of the concept, a discussion of the technological and organizational underpinnings of MNEs, and a description of European MNEs in the United States from 1875 to 1914 as well as analyses of specific industrial MNEs, and banks and capital markets. Papers in part 2 are devoted to government and the MNEs, emphasizing the roles of home and host countries, including British manufacturing, oil and Mexico, international business and Poland, foreign enterprise in Finland, German MNEs and the Nazi state, agribusiness in Zimbabwe, MNEs and the sexual division of labor, MNEs and the New International Economic Order, and perspectives on MNEs. Teichova is Professor of Economic History at the University of East Anglia. Lévy-Leboyer is Professor of Economic History at the University of Paris, Nanterre. Nussbaum is Head of the Institut für Wirtschaftsgeschichte, Akademie der Wissenschaften der DDR. Name, firm, and subject indexes.

WORGER, WILLIAM H. *South Africa's city of diamonds: Mine workers and monopoly capitalism in Kimberley, 1867-1895*. Yale Historical Publications series, Miscellany no. 135. New Haven and London: Yale University Press, 1987. Pp. xvi, 330. ISBN 0-300-03716-3.

JEL 87-1023

Examines the history of Kimberley and the diamond mining industry from the discovery of diamonds in the late 1860s to the development of a monopoly enterprise by Cecil Rhodes and DeBeers Consolidated Mines in the 1880s and 1890s. Part one examines: the transition from individual to large scale mining; the subjugation of the rural black societies to the demands of the industry; the use of law to build a prison-like urban community for blacks; and white mine workers, economic struggle, and labor consciousness. Part 2 discusses the establishment of a monopoly enterprise and the development of a company town. Concludes with a discussion of the tumultuous years of 1895-1905. Worger is Andrew W. Mellon Fellow in History at Stanford University. Select bibliography; index.

See also: Book Numbers JEL 87-1013, 87-1037, 87-1177, 87-1226, 87-1227

050 ECONOMIC SYSTEMS

KATZENSTEIN, PETER J. *Corporatism and change: Austria, Switzerland, and the politics of industry*. Paperback reprint. Cornell Studies in Political Economy series. Ithaca and London: Cornell University Press, [1984] 1987. Pp. 331. \$39.95, cloth; \$14.95, paper. ISBN 0-8014-9467-2, pbk.

JEL 87-1024

Paperback reprint. [See JEL no. 85-0393 for annotation of original edition.]

See also: Book Numbers JEL 87-1011, 87-1012, 87-1017, 87-1031, 87-1139, 87-1161

100 Economic Growth; Development; Planning; Fluctuations

110 ECONOMIC GROWTH; DEVELOPMENT; AND PLANNING THEORY AND POLICY

GRELLET, GÉRARD. *Structures et stratégies du développement économique (Structures and strategies of economic development)*. Collection: Thémis—Sciences économiques. Paris: Presses Universitaires de France; distributed by Les Editions Françaises, Boucherville, Quebec, 1986. Pp. 651. Fr 165.00, Can\$ 48.00, paper. ISBN 2-13039-594-5.

JEL 87-1025

Analyzes the different forms of underdevelopment and evaluates the merits of possible strategies in the context of interdependent economies. In the first part, the author proposes a typology of the form of economic development, according to the level of export and the effort of investment, in order to compare the different structures of development: regressive economies, extraverted industrial economies, and inarticulated economies. Theories and strategies of development are then examined providing detailed analysis of agricultural, industrial, demographic and social problems. The last part refers to North-South relations, mainly the flow of goods and capital, and the role of international aid. Grellet used this material while teaching at the Universities of Bangui, Rabat, Casablanca, Nantes, and Paris I. Subject index. [Jean Mirucki]

LYNCH, JOHN E., ed. *Economic adjustment and conversion of defense industries*. Westview Special Studies in Public Policy and Public Systems Management series. Boulder and London: Westview Press, 1987. Pp. xiv, 312. \$33.50, paper. ISBN 0-8133-7398-4.

JEL 87-1026

Fourteen papers and an introduction by the editor focus on policies to facilitate economic adjust-

ment and conversion of defense industries. Papers examine: the significance of defense spending; the policy debate regarding the conversion approach; the importance of defense-related employment for selected weapons systems; a comparative study of adjustment to defense industrial cutbacks in four communities; the civilian reuse of defunct military bases; corporate diversification programs involving attempts to convert from military to civilian markets; the European conversion experience; the reuse and conversion of industrial plants; the normal process of industrial plant redevelopment; civilian market opportunities for defense industries; state and local economic development programs; worker assistance and placement experience; the success of conversion policies; and dealing with major plant closures. The contributors are mainly economists. Lynch is Associate Director of Economic Adjustment, Office of the Secretary of Defense. Annotated bibliography; no index.

RICHARDS, ALAN. *Development and modes of production in Marxian economics: A critical evaluation*. Fundamentals of Pure and Applied Economics series, Marxian Economics section, vol. 12. Chur, Switzerland; London; Paris and New York: Harwood Academic, 1986. Pp. viii, 151. \$36.00, paper. ISBN 3-7186-0332-2.

JEL 87-1027

Surveys the state of the art regarding development and modes of production in Marxian economics to evaluate the strengths and weaknesses of a Marxist approach to economic development. Delineates the essential features of a Marxist approach to development problems and analyzes debates among Marxists on the uses of the concept of mode of production. The discussion of Marxist work on development focuses on each of three levels—sectoral (especially rural and agricultural), national, and international. The concluding chapter provides a summary and suggests ways in which the neoclassical approaches to induced institutional innovation and collective choice differ from Marxist approaches. Richards is Associate Professor of Economics, University of California, Santa Cruz. Index.

THIRLWALL, A. P., ed. *Keynes and economic development: The seventh Keynes seminar held at the University of Kent at Canterbury, 1985*. New York: St. Martin's Press, 1987. Pp. x, 186. \$27.50. ISBN 0-312-45199-7.

JEL 87-1028

Five papers and discussions examine various aspects of Keynes's life and work. Papers by A. P. Thirlwall, W. B. Reddaway, and Hans Singer discuss the relevance of Keynes and Keynesian analysis to developing countries. John Williamson speculates about the impact on developing countries

if the Keynes Plan had been adopted at Bretton Woods, and Edward Heath examines the problem of the North-South divide and the role of international Keynesianism. The contributors are mainly economists. Thirlwall is Professor of Applied Economics at the University of Kent at Canterbury. Name, author, and subject indexes.

See also: Book Numbers JEL 87-0895, 87-1055, 87-1095, 87-1181, 87-1187, 87-1238

120 COUNTRY STUDIES

CHENERY, HOLLIS; ROBINSON, SHERMAN AND SYRQUIN, MOSHE. *Industrialization and growth: A comparative study*. With contributions by GERSHON FEDER ET AL. New York; Oxford; Toronto and Melbourne: Oxford University Press for the World Bank, 1986. Pp. x, 387. \$29.95. ISBN 0-19-520547-2. JEL 87-1029

A series of studies by the authors and others examine postwar experiences of semi-industrial countries by comparing the sources of industrialization in different countries and analyzing structural change using a general equilibrium framework. Clarifies the role of industrialization in development through comparative studies of the economies of Colombia, Israel, Japan, South Korea, Mexico, Norway, Taiwan, Turkey, and Yugoslavia. Addresses three main topics: industrialization as a stage in the overall transformation that constitutes economic growth; the similarities and differences of the nine industrializing economies; and the relation between rising productivity and structural change. Chenery is Professor of Economics at Harvard University. Robinson is Professor of Agricultural and Resource Economics at the University of California, Berkeley. Syrquin is Professor of Economics at Bar-Ilan University, Israel. Index.

DUIGNAN, PETER AND JACKSON, ROBERT H., eds. *Politics and government in African states, 1960-1985*. London and Sydney: Croom Helm; Stanford, Calif.: Stanford University, Hoover Institution Press, 1986. Pp. 442. \$36.95. ISBN 0-8179-8481-X. JEL 87-1030

Eleven papers trace the evolution of the formal structure of government and politics in Sub-Saharan African states since independence. An introductory paper reviews the economic and political structure of African states, focusing on its common features and the impact of colonial rule. Subsequent papers focus on groups of countries: Nigeria and Ghana; Cameroon, Togo, and the states of the former French West Africa; Zaire and Cameroon; Malawi, Zambia, and Zimbabwe; Tan-

zania, Uganda, and Kenya; the Horn of Africa; South Africa; Namibia, Botswana, Lesotho, and Swaziland; and Angola, Mozambique, and Guinea-Bissau. A final paper considers prospects and possibilities for economic and political development. The contributors are: A. H. M. Kirk-Greene, Victor T. LeVine, Crawford Young, L. H. Gann, Carl G. Rosberg, Christopher Clapham, Thomas H. Henriksen, and the editors. Daignan is Senior Fellow at the Hoover Institution. Jackson is Professor of Political Science at the University of British Columbia. Select bibliography; index.

[LEVCIK, FRIEDRICH] *Socialist economy and economic policy: Essays in honour of Friedrich Levcik*. Edited by G. FINK. Studien über Wirtschafts- und Systemvergleiche, Band 13. Vienna and New York: Springer, 1985. Pp. 279. \$24.20, paper. ISBN 0-387-81903-7. JEL 87-1031

Twenty-three papers (six in German) written and collected to honor Friedrich Levcik and his work related to comparative economics. General subject areas are: theory in socialism and economic reform; structural policy; employment and working time; finance, prices, and foreign exchange; international economic relations; and international comparisons. Specific topics include: the origins and development of the model of socialist economy, role of the law of value in socialist economy, technocratic versus democratic elements in the Polish economic reform, the state of Hungarian reform, structural change and international economic comparisons, problems of export-oriented restructuring of Polish industry, money supply and inflation in the Soviet Union, decentralization and financial equilibrium in a centrally planned economy, East-West trade and joint ventures, energy trade within COMECON, inventories in East and West, and the success of capitalism and the spread of socialism. No index.

LIPPIT, VICTOR D. *The economic development of China*. East Gate Books series. Armonk, N.Y. and London: Sharpe, 1987. Pp. ix, 289. \$35.00, cloth; \$14.95, paper. ISBN 0-87332-403-X. JEL 87-1032

Considers the economic development of China from the perspective of class interest and class structure and as a case study in socialist development. Presents a theoretical framework based on an analysis of class structure and surplus use to assess changes that have taken and are taking place in China. Uses the framework to determine reasons for China's development failure prior to 1949 and subsequent economic development since the founding of the People's Republic. Argues that the critical change was the replacement of classes with

a hostile or ambiguous attitude toward development by classes with a clear interest in development. The concluding chapter discusses some of the contradictions that have arisen in the socialist transition. General conclusions are that the existence of an autonomous, self-perpetuating hierarchy within Chinese society is an obstacle equally to the emergence of either capitalism or socialism and that China's development path currently lies somewhere between the statist and socialist models. Lippit is Professor of Economics, University of California, Riverside. Index.

MURAKAMI, YASUSUKE AND KOSAI, YUTAKA, eds. *Japan in the global community: Its role and contribution on the eve of the 21st century*. Round Table Discussion on Japan in the Global Community series. Tokyo: University of Tokyo Press; distributed by Columbia University Press, New York, 1986. Pp. xvii, 129. \$17.50, paper. ISBN 4-13-057014-5.

JEL 87-1033

Report organized from the proceedings of eight monthly conferences held between September 1985 and April 1986. Part 1 deals with Japan's economic, political, and cultural roles within the global community. Part 2 focuses on the conceptual framework that highlights Japan's role in the twenty-first century and presents a seven part proposal outlining its responsibilities and strategies. Part 3 highlights the role of the Japanese people as participants in this future global community. Murakami is Professor of Economics at the University of Tokyo. Kosai is Professor of Economics at the Tokyo Institute of Technology. No index.

SKARSTEIN, RUNE AND WANGWE, SAMUEL M. *Industrial development in Tanzania: Some critical issues*. Uppsala, Sweden: Scandinavian Institute of African Studies in cooperation with Tanzania Publishing House, Dar es Salaam; distributed by Almqvist and Wiksell International, Stockholm, 1986. Pp. xi, 291. SKr 80.00, paper. ISBN 91-7106-254-8.

JEL 87-1034

Analysis of key issues relating to the industrial development of Tanzania in the past two decades. Part 1 presents a historical analysis of industrial development in Tanzania since its independence and discusses the basic industry strategy adopted. Part 2 focuses on the problems and limitations of this strategy. Problem areas include: choice of technology, transfer of technology, and technology policy; economies of scale in industrial development; and linkages and sequencing in basic industries. Part 3 considers the choice between development through aid and through internal mechanisms, and examines the role of aid in economic growth as well as the role of agriculture in industrial development. No index.

TSAO, JAMES T. H. *China's development strategies and foreign trade*. Foreword by LAWRENCE R. KLEIN. Lexington, Mass. and Toronto: Heath, Lexington Books, 1987. Pp. xii, 209. \$32.00. ISBN 0-669-13954-8.

JEL 87-1035

Analysis of the problems of, and strategies for, China's economic development and foreign trade. Part 1 deals with economic development and traces trends and patterns of development and economic strategies since 1950. Discusses recent problems constraining economic growth and economic planning, and recent improvements in China's economic development. Part 2 focuses on China's foreign trade and discusses trends in trade and commercial policy since 1950. Analyzes problems and recent improvements in trade between the United States and China. Speculates on the probability of attaining long-term development objectives and presents the results of short-term projections. Appendices present statistical tables, details of an econometric model of China, and a comparison of two Chinese romanization systems. Tsao is a professor at Georgetown University. Glossary; bibliography; index.

UNITED NATIONS. *Economic and Social Survey of Asia and the Pacific, 1986*. U.N. Publications Sales No. E.87.II.F.1. Bangkok: Author, 1987. Pp. xiv, 172. \$20.00, paper. ISBN 92-1-119440-7.

JEL 87-1036

Fortieth annual survey of economies in the ESCAP region. Part 1 focuses on recent economic developments and considers: developments in the world economy and their impact on the ESCAP region; economic developments in the ESCAP region; and selected issues related to prices and public finance, trade and exchange rate policies, and agricultural price policies. Part 2 deals with human resource development in Asia and the Pacific and covers problems, policies, and perspectives relating to population, nutrition and health, and education. No index.

See also: Book Numbers JEL 87-0886, 87-0891, 87-1019, 87-1087, 87-1103, 87-1131, 87-1205

130 ECONOMIC FLUCTUATIONS; FORECASTING; STABILIZATION; AND INFLATION

BEREND, IVAN T. BONCHARDT, KNUT, eds. *The impact of the depression of the 1930s and its relevance for the contemporary world: Comparative studies prepared for the A/S session of the 9th International Economic History Congress, 24-29 August, 1986, Bern, Switzerland*. Budapest: Karl Marx University of Economics, Academy Research Center of East-Central Europe; distributed by Kultura,

Hungarian Foreign Trading Company, 1986. Pp. 562. \$25.00, paper. ISBN 963-7251-45-6.

JEL 87-1037

Twenty-two essays (one in French and one in German), plus an introductory report and a concluding study, discuss the impact of the depression of the 1930s and its relevance for the contemporary world. Part one presents a series of case studies covering the United States, Australia, Great Britain, France, Belgium, Germany, Austria, East European economies, Yugoslavia, India, and El Salvador. Part two is devoted to a series of general topics and examines: the origin and similarities between the two crises of the twentieth century; post-World War II growth as a Schumpeter boom; economic crises and the state of confidence in each period; international capital movements and foreign exchange markets in crisis; the Latin American debt crisis; private consumption and the development of industrial production; and agriculture in the Great Depression and in the 1970s. Berend is President of the Hungarian Academy of Sciences. Borchardt is at the Volkswirtschaftliches Institut, University of Munich. No index.

CAGAN, PHILLIP, ed. *Deficits, taxes, and economic adjustments*. EDUARDO SOMENSATTO, associate editor. AEI Contemporary Economic Problems series, no. 455. Washington, D.C.: American Enterprise Institute for Public Policy Research, 1987. Pp. 332. \$27.50, cloth; \$14.75, paper. ISBN 0-8447-3620-1, pbk.

JEL 87-1038

Ten papers, preceded by summaries, examine major macroeconomic policy issues facing the U.S. economy. Topics include: causes and consequences of the behavior of the dollar; the international monetary system and proposals for international policy coordination; policy arguments arising from and related to changes in industrial structure and foreign competition; disinflation, the dollar, and velocity; the ups and downs of oil; financial strains and public policy to maintain financial stability; the influence of employment shifts and new job opportunities on the growth and distribution of real wages; the domestic budget after Gramm-Rudman and after Reagan; the new tax law; and lessons for the United States in the Japanese tax system. Cagan is Professor of Economics, Columbia University. Somensatto is a consultant for the World Bank. No index.

CUTLER, TONY; WILLIAMS, KAREL AND WILLIAMS, JOHN. *Keynes, Beveridge and beyond*. London and New York: Routledge and Kegan Paul, 1986. Pp. xi, 162. \$47.50. ISBN 0-7102-0483-3.

JEL 87-1040

Analysis of British economic and social policy since World War II. Argues that policy was guided

by a commitment to liberal collectivism whose main architects were Keynes and Beveridge. Discusses the inherent shortcomings of such a philosophy and argues that liberal collectivism became increasingly undermined during the economic expansion of the 1950s and 1960s and the succeeding recession of the 1970s and 1980s. Considers post-war development of company pensions as a form of occupational welfare, arguing that private pension schemes promote inequality. Analyzes the pattern of employment by gender, skill, and pay level, showing how the original assumptions about the social character of the workforce and the wage levels at which work would be available have been invalidated during the last thirty years. Concludes that the current crisis of the British economy cannot be resolved by use of the liberal collectivist philosophy and explores some new terrains of policy. Cutler teaches sociology at Middlesex Polytechnic. John Williams and Karel Williams teach economic and social history at the University College of Wales, Aberystwyth. Bibliography; index.

HOLDEN, K.; PEEL, D. A. AND THOMPSON, J. L. *The economics of wage control*. New York: St. Martin's Press, 1987. Pp. ix, 144. \$32.50. ISBN 0-312-23654-9.

JEL 87-1041

Introductory textbook on the economics of incomes policy. Reviews the historical experience of controls in a number of countries. Discusses ways of assessing the impact of conventional incomes policies and their effect on nominal wage change and on prices. Discusses the tax-based incomes policies and final offer arbitration. Presents the economics of indexation and discusses the future of wage and price controls. In spite of negative conclusions regarding the efficacy of incomes policies, suggests that wage and price controls may provide some influences that moderate the growth of unemployment while anti-inflationary policies are being pursued. Holden is Senior Lecturer in Economics at the University of Liverpool. Peel is Professor of Economics at University College, Aberystwyth. Thompson is Senior Lecturer in Economics at Liverpool Polytechnic. Author and subject indexes.

MARSHALL, MICHAEL. *Long waves of regional development*. New York: St. Martin's Press, 1987. Pp. xv, 280. \$32.50. ISBN 0-312-49674-5.

JEL 87-1042

Investigates long waves in regional development through a synthesis of regional analysis and long wave theory. Part 1 deals with long waves in capitalist development and reviews: theories of long waves; the relationship between long waves, technological change, and the capitalist labor process; and long waves, capitalist crisis, and the business

cycle. Part 2 describes the long waves of regional development in Britain between 1941 and 1971. Part 3 covers nineteenth-century long waves and includes a discussion of contrasting regional experiences as well as the uniqueness of the British experience. Part 4 focuses on twentieth-century long waves and covers economic fluctuations and uneven regional development, and industrial restructuring and the new spatial division of labor. Marshall is Senior Economist at the West Midlands Enterprise Board. Bibliography; author and subject indexes.

MASON, SIR JOHN; MATHIAS, P. AND WESTCOTT, J. H., eds. *Predictability in science and society: A joint symposium of the Royal Society and the British Academy held on 20 and 21 March 1986*. London: The Royal Society and the British Academy, 1986. Pp. viii, 145. £15.50, paper. ISBN 0-85403-284-3. JEL 87-1043

Eight papers and discussions, previously published in the *Proceedings of the Royal Society of London*, series A, volume 407, focus on predictability in physical and economic systems. A. K. Sen discusses methodological issues associated with prediction in economic theory. D. F. Hendry examines the role of prediction in evaluating econometric models. Sir James Lighthill covers the failure of predictability in Newtonian dynamics, and Sir John Mason assesses numerical weather predictions. G. A. Cohen examines historical inevitability and human agency in Marxism. J. H. Westcott reviews the application of control theory to macroeconomic models. Sir Terence Burns evaluates the interpretation and use of economic predictions, and J. A. Gulland discusses the predictability of living marine organisms. No index.

PARIKH, ASHOK. *Estimation and forecasting of trade shares*. Development Papers series, no. 5. U.N. Sales No. E.86.II.F.17. Bangkok, Thailand: United Nations Economic and Social Commission for Asia and the Pacific, 1986. Pp. ix, 344. \$33.00, paper. ISBN 92-1-119410-5. JEL 87-1044

Considers trade between the ESCAP countries and the rest of the world. Estimates and forecasts the trade of Asian developing countries to obtain information not available through the World Link study. Critically evaluates various methodologies for the estimation of bilateral trade shares and flows in terms of their assumptions, results, and predictive ability, and develops a method of estimating the elements of the trade share matrix that assumes that export prices and imports are exogenously given. Analyzes patterns of trade from 1965-80 and considers the assumptions needed by various approaches to the estimation of export equations and

import shares. Presents the author's Almost Ideal Demand System (AIDS) and estimates quantity share equations. Examines the uses of the CES utility function to derive a Hickman-Law linearized version to estimate the elasticity of substitution and estimates export equations by countries. Analyzes trade in manufactures using the AIDS and CES approaches and evaluates the predictive performance of various bilateral trade models. Concludes with a summary of the attempts to estimate trade shares in the context of link methodology. Parikh is Professor of Economics, School of Economic and Social Studies, University of East Anglia, Norwich, United Kingdom. No index.

RUDEBUSCH, GLENN D. *The estimation of macroeconomic disequilibrium models with regime classification information*. Lecture Notes in Economics and Mathematical Systems series, no. 288. New York; Berlin; London and Tokyo: Springer, 1987. Pp. 128. \$17.80, paper. ISBN 0-387-17757-4. JEL 87-1045

Discusses the econometric specification of a macroeconomic disequilibrium model incorporating nonstochastic information regarding market excess demand and the prevailing market regime. Part 1 discusses issues in the specification of disequilibrium models. Part 2 critically assesses three prior attempts at econometric specification, discusses the exact excess demand specification, and outlines practical criteria for evaluation of econometric disequilibrium specifications. Part 3 presents the details of the estimation of a disequilibrium model of the U.S. labor market specified with exact excess demand. Part 4 discusses the specification and estimation of a disequilibrium model with markets for labor, investment, and consumption. Part 5 presents conclusions and considers the prospects for disequilibrium modeling. Rudebusch is associated with the Division of Research and Statistics, Board of Governors of the Federal Reserve System. No index.

See also: Book Numbers JEL 87-0891, 87-1005, 87-1020, 87-1057, 87-1080, 87-1092, 87-1103, 87-1208, 87-1210, 87-1214, 87-1250, 87-1254

200 Quantitative Economic Methods and Data

210 ECONOMETRIC, STATISTICAL, AND MATHEMATICAL METHODS AND MODELS

BRATLEY, PAUL; FOX, BENNETT L. AND SCHRAGE, LINUS E. *A guide to simulation*. Second edition. New York; Berlin; London and Tokyo: Springer, [1983]

1987. Pp. xx, 397. \$45.00. ISBN 3-387-96467-3.

JEL 87-1046

Graduate level textbook in simulation has been revised and updated. Topics include: variance reduction; output analysis; rational choice of input distributions; nonuniform and uniform random numbers; simulation programming; and programming to reduce the variance. New features include Mardov chain simulation and gradient estimation. The treatment of asynchronous observations, indirect estimation, standardized time series, and the generation of random integers has been updated. Bratley and Fox are at the Département d'informatique et de recherche opérationnelle, University of Montreal. Schrage is at the Graduate School of Business, University of Chicago. Author and subject indexes.

BROEMELING, LYLE D. AND TSURUMI, HIROKI. *Econometrics and structural change*. Statistics: Textbooks and monographs series, vol. 74. New York and Basel: Dekker, 1987. Pp. vii, 266. ISBN 0-8247-7500-7.

JEL 87-1047

An introduction to statistical inference regarding structural change primarily from the standpoint of Bayesian inference and within the framework of linear analysis. Presents examples of the treatment of structural change in econometrics and statistics, and discusses Bayesian statistical inference. Analyzes the univariate and multivariate case of changing parameter models, the treatment of structural change in time series, and alternative models for dealing with structural change in econometric research. Each chapter contains several exercises. Broemeling is Scientific Officer for Probability and Statistics, Office of Naval Research, Department of the Navy. Tsurumi is Professor of Economics, Rutgers University. Index.

[COCHRANE, DONALD] *Specification analysis in the linear model (In honour of Donald Cochrane)*. Edited by MAXWELL L. KING AND DAVID E. A. GILES. International Library of Economics series. London and New York: Routledge and Kegan Paul, 1987. Pp. ix, 358. ISBN 0-7102-0614-3.

JEL 87-1048

Fourteen articles plus an introduction by the editors, honoring the early econometric work of Donald Cochrane, the late Dean of Economics and Politics at Monash University in Australia. Papers develop the general specification analysis theme in various ways, with specific emphasis on specification issues arising in the context of autocorrelated errors with regression model. The first part (6 papers) deals with linear regression and autocorrelated errors and includes contributions. Part 2 (3 papers) deals with general model specifications.

The third part contains two chapters dealing with statistical issues of direct concern to econometricians. The last part comprises three essays dealing with data issues and applied econometrics. Three appendices reproduce two original articles written by Cochrane and Guy H. Orcutt and another by J. D. Sargan. King is Professor of Econometrics at Monash University, and Giles is Professor of Economics at the University of Canterbury, New Zealand. Index.

HARRIS, MILTON. *Dynamic economic analysis*. New York and Oxford: Oxford University Press, 1987. Pp. x, 137. \$19.95. ISBN 0-19-504406-1.

JEL 87-1049

A graduate level textbook that presents an exposition of the most common techniques of dynamic economic analysis. Reviews the necessary mathematical background and discusses stationary discounted dynamic programming. Examines valuation equilibrium and Pareto optimality, and recursive competitive equilibrium. Concludes with a discussion of sequential game equilibria. Contains end-of-chapter exercises, with a solution manual available for instructors. Index.

JAFFE, A. J. AND SPIRER, HERBERT F. *Misused statistics: Straight talk for twisted numbers*. Popular Statistics series, no. 5. New York and Basel: Dekker, 1987. Pp. xi, 237. ISBN 0-8247-7631-3.

JEL 87-1050

Outgrowth of a series of articles on the misuse of statistics that appeared in the *New York Statistician*. Helps the reader to become a critical observer of the statistical scene and to ask the proper questions. Misuses are classified into five categories: lack of knowledge of subject matter; quality of the basic data; preparation of the study and the report; statistical methodology; and deliberate suppression of data. Analyzes the misuses in detail and presents actual and theoretical examples. Discusses: survey and poll statistics, Ockham's Razor, affirmative action and discrimination statistics, ecotoplastics, and governmental statistics. Jaffe is Senior Research Scholar Emeritus at Columbia University. Spierer is Professor of Information Management at the University of Connecticut, Stamford. Index.

KLEIJNEN, JACK P. C. *Statistical tools for simulation practitioners*. Statistics: Textbooks and monographs series, vol. 76. New York and Basel: Dekker, 1987. Pp. xii, 429. ISBN 0-8247-7333-0.

JEL 87-1051

A guide for practitioners wishing to employ statistical techniques for the solution of simulation

problems. Part 1 is devoted to runlength and confidence intervals and covers: terminating simulations and elementary statistics; assumptions of the t statistic; responses other than the mean; sample size or runlength; elementary steady-state concepts; analyzing nonterminating simulations; and applications. Part 2 examines strategic issues related to regression analysis and experimental design and includes: types of variables; metamodeling; basic regression analysis; optimization of simulated systems; interactions; response surface designs; screening; and stagewise experimentation. Contains numerous exercises. Kleijnen is Professor of Simulation and Information Systems, Catholic University, Brabant, the Netherlands. Author and subject indexes.

- KURZHANSKI, A. B. AND SIGMUND, K., eds. *Dynamical systems: Proceedings of an IASA (International Institute for Applied Systems Analysis) workshop on mathematics of dynamic processes, held at Sopron, Hungary, September 9-13, 1985. Lecture Notes in Economics and Mathematical Systems series, no. 287.* New York; Berlin; London and Tokyo: Springer, 1987. Pp. vi, 214. \$24.40, paper. ISBN 0-387-17698-5. JEL 87-1052

Sixteen papers investigate special topics in systems dynamics. Part 1 discusses topics related to discrete dynamical systems. Part 2 examines viability theory and multivalued dynamics. Part 3 covers stability analysis, and part 4 focuses on controlled dynamical systems. Part 5 deals with biological and social applications of dynamic systems analysis. The contributors are mainly mathematicians and systems analysts. Kurzhanski and Sigmund are associated with the International Institute of Applied Systems Analysis, Austria. No index.

- PAPANICOLAOU, GEORGE, ed. *Random media.* IMA Volumes in Mathematics and Its Applications series, vol. 7. New York and Berlin: Springer, 1987. Pp. 321. \$34.00. ISBN 0-387-96524-6.

JEL 87-1053

Twenty-one papers discuss current problems and methods in random media. Topics include: stable convergence and asymptotic capacity measures; effective equation and renormalization for a nonlinear wave problem with a random source; exercises for a book on random potentials; travel-time problems for waves in random media; amorphous semiconductors; localization for a random discrete wave equation; simulations and global optimization; low temperature behavior in random Ising models; wave equations, path integrals, and semiclassical approximations; effective conductivities of reciprocal media; one-dimensional random Schrödinger operators; numerical simulation of Ito stochastic differential equations; regularity of the density of

states for stochastic Jacobi matrices; dispersive bulk parameters for coherent propagation in correlated random distributions; and random rays and stochastic caustics. The contributors are mainly mathematicians. Papanicolaou is at the Institute for Mathematics and Its Applications, University of Minnesota. No index.

- WRIGHT, GEORGE AND AYTON, PETER, eds. *Judgmental forecasting.* Chichester; New York; Brisbane and Toronto: Wiley, 1987. Pp. ix, 293. \$59.95. ISBN 0-471-91327-8. JEL 87-1054

Fourteen papers present an overview of judgmental forecasting. Part 1 deals with the psychology of individual judgments and examines: the adequacy of judgmental forecasts; beliefs and expectations as causes of judgmental bias; the assessment of human judgment; subjective estimation of precise and vague uncertainties; and the psychology of forecasting. Part 2 focuses on judgment from groups of individuals and reviews: integrating group judgments in subjective forecasts; Delphi inquiry systems; forecasting methods for conflict situations; and bridging the gap between forecasting and action. Part 3 is concerned with the use of multiple regression analysis and discusses: social judgment theory and forecasting; linear models as decision aids in insurance decision making; and bootstrapping and linear models. Part 4 examines the use of mental models for generating scenarios and judgmental handling of energy scenarios. The contributors are associated with psychology departments and business schools. Ayton is with the Decision Analysis Group of the City of London Polytechnic. Wright is at the Bristol Business School. Index.

See also: Book Numbers JEL 87-0975, 87-1081, 87-1125

220 ECONOMIC AND SOCIAL STATISTICAL DATA AND ANALYSIS

- ARNOUS, JEAN. *Analyse multisectorielle et croissance (Multisectoral analysis and growth).* Paris: Economica; distributed in North America by Diffuseur G. Vermette, Boucherville, Quebec, 1987. Pp. vi, 345. Fr 145.00, Can\$ \$37.95, paper. ISBN 2-7178-1262-8. JEL 87-1055

Textbook dealing with the analysis of input-output tables in a dynamic context. Made up of twenty-two solved problems, it starts each one of them with a presentation of a given concept and some relevant bibliographical notes, followed by the statement of the problem. The detailed solution is illustrated with appropriate tables and graphs, occasionally including the instructions of the BASIC computer program, and presented with

an economic interpretation of the results. The first part, an introduction to multisectoral analysis using a two-sector model, is based on the contributions of Leontief and is followed by an analysis of the interdependency among physical goods and its impact on monetary and factor-sharing variables, and finally its relevance to selected aspects of economic thought. In the second part, several growth models are examined and treated with numerical examples: Leontief, Ricardo, Solow, Uzawa-Inada, and von Neumann. Arrous is Professor at the University of Strasbourg. Annotated bibliography; no index. [Jean Mirucki]

AXILROD, STEPHEN H., ET AL. *Debt, financial stability, and public policy: A symposium sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming, August 27-29, 1986*. Kansas City: Federal Reserve Bank of Kansas City, 1986. Pp. xii, 235. Paper. JEL 87-1056

Six papers, and critical commentary, presented at a symposium attended by economists, Federal Reserve officials, and executives from government, financial institutions, and business. Examines the implications of rapid debt growth on the nation's financial stability and appropriate public policy responses. Bryon Higgins presents an overview of the symposium. Both Henry Kaufman and Benjamin Friedman discuss the impact of the growth of domestic debt on financial stability. Rudiger Dornbusch examines international debt and economic instability, and A. W. Clausen discusses international debt and public policy. Robert Eisenbois examines regulatory policies and financial stability, and Lawrence Summers discusses debt problems and macroeconomic policies. No index.

INTERNATIONAL MONETARY FUND. *World economic outlook, April 1987: A survey by the staff of the International Monetary Fund*. IMF Occasional Paper. World Economic and Financial Surveys series. Washington, D.C.: Author, 1987. Pp. vii, 194. \$15.00, paper. ISBN 0-939934-85-X.

JEL 87-1057

Semiannual review of world economic developments. Draws on the information the Fund staff gathers through regular and special consultations with member countries as well as through its econometric modeling techniques. Covers developments and performance of Fund countries in 1986 and prospects and issues concerning the world economic outlook to 1991 as well as in the short term (1987-88). Focuses on economic prospects and uncertainties in industrial countries and growth and adjustment in the developing world. Supplementary notes consider the prices of oil and non-oil primary commodities and the discrepancy in world current account balances. About half of

the book consists of a detailed statistical appendix. No index.

OWEN, DORAIN. *Money, wealth and expenditure: Integrated modelling of consumption and portfolio behaviour*. Cambridge; New York and Melbourne: Cambridge University Press, 1986. Pp. xi, 210. \$34.50. ISBN 0-521-26761-7. JEL 87-1058

Discusses key theoretical and empirical aspects of modeling real-financial linkages and presents the "Yale" or general equilibrium approach to modeling sectoral financial behavior, focusing on the Brainard-Tobin "Pitfalls" model. Considers possible extensions of this model for modeling expenditure and portfolio behavior jointly. Reviews methods of econometric estimation of systems of equations in portfolio models and surveys empirical applications of the general equilibrium model. Describes the sources of quarterly stock and flow data for the United Kingdom personal sector's portfolio and presents the results of estimation and testing of integrated models of expenditure and portfolio behavior. Owen is associated with the University of Reading. Author and subject indexes.

SMITH, STEPHEN. *Britain's shadow economy*. Oxford; New York; Toronto and Melbourne: Oxford University Press, Clarendon Press, 1986. Pp. xii, 203. \$34.50. ISBN 0-19-828569-8. JEL 87-1059

Analysis of the nature and relative size of Britain's shadow economy—that portion of economic activity not covered by the economic accounts. Part 1 defines the shadow economy and considers it in relation to the national accounts. Part 2 discusses the incentives and opportunities for tax and benefit fraud as well as issues of detection, prosecution, and penalties. Part 3 focuses on measurement of the black economy and highlights the use of evidence from the demand for cash, national accounts discrepancies, and survey discrepancies. Part 4 covers the wider shadow economy, assesses the extent of the household economy, and examines the nature of substitution between the formal, household, and communal economies. Smith is Senior Research Officer at the Institute for Fiscal Studies. Bibliography; no index.

See also: Book Numbers JEL 87-0065, 87-1080, 87-1029, 87-1165, 87-1205, 87-1348

300 Domestic Monetary and Fiscal Theory and Institutions

310 DOMESTIC MONETARY AND FINANCIAL THEORY AND INSTITUTIONS

BAMBERG, GÜNTER AND SPREHMANN, KLAUS, eds. *Capital market equilibria*. With contributions by G.

BAMBERG ET AL. New York; Berlin and Tokyo: Springer, 1986. Pp. x, 228. \$35.00. ISBN 0-387-16248-8. JEL 87-1060

Six papers that are both introductory surveys and results of individual research on current issues of finance and related concepts of capital market equilibria. Intended to be an up-to-date backup for standard textbooks that treat finance from the equilibrium point of view. Topics are: the hybrid model and related approaches to capital market equilibria (Günter Bamberg); problems of portfolio decisions and capital market equilibria under incomplete information (Volker Firschau); the theory and empirical evidence related to option valuation (Robert Geske and Siegfried Trautmann); establishing the value of security agreements (Bernd Rudolph); testing the asset pricing model in a small economy where the issue of integration or segmentation of different national markets cannot be decided beforehand (Eduardo S. Schwarte and Michael J. Brennan); and the simple analytics of arbitrage (Klaus Spremann). Bamberg is Professor of Statistics, University of Augsburg. Spremann is Professor at the University of Ulm. Author and subject indexes.

BARINA, MARCO AND CARLETTI, SILVANO. *Changes in the degree of concentration of the Italian banking system: An international comparison*. Research Papers series, no. 5. Rome: Banca Nazionale Del Lavoro, Economic Research Department, 1986. Pp. 90. Paper. JEL 87-1061

Analysis of the degree of concentration of the Italian banking system. Discusses problems of methods and estimation, and the interpretation of concentration indices. Presents data on the degree of concentration in the Italian banking system at the end of World War II and changes in its structure from 1976 to 1984. Compares banking concentration between Italy and France, Germany, Great Britain, Japan, and the United States. Bibliography; no index.

CIOCCA, PIERLUIGI, ed. *Money and the economy: Central bankers' views*. Translation. New York: St. Martin's Press, [1983] 1987. Pp. x, 331. \$29.95. ISBN 0-312-54429-4. JEL 87-1062

Sixteen previously published papers and an introduction by the editor present the reflections of central bankers from various countries. Part 1 covers the nature and functions of the central bank. Part 2 presents various experiences with monetary management. Part 3 deals with the relationship between the central bank and commercial banks. Part 4 focuses on the international dimensions of central banking. The contributors are, or have been, governors of central banks. Contents: Central

Manager for Central Bank Operations at the Banca d'Italia in Rome. Index.

DORN, JAMES A. AND SCHWARTZ, ANNA J., eds. *The search for stable money: Essays on monetary reform*. Chicago and London: University of Chicago Press and the Cato Institute, 1987. Pp. xvii, 40. \$30.00, cloth; \$13.95, paper. ISBN 0-226-15836-6, pbk. JEL 87-1063

Nineteen papers and comments, most previously published in the *Cato Journal*, discuss issues related to the stability of money. One paper presents a historical perspective on the search for stable money. Three papers discuss the erratic nature of Federal Reserve policy. Three papers discuss the possibility of constitutional monetary reform. Three papers focus on the role of monetarism in the search for stable money. Two papers examine the central issues relating to monetary policy at the gold standard. Four papers assess the prospects for the denationalization of money, and three papers discuss the future of monetary policy. The contributors are economists. Dorn is Editor of the *Cato Journal* and Associate Professor of Economics at Towson State University. Schwartz is Research Associate, National Bureau of Economic Research. Index.

ECONOMIC COUNCIL OF CANADA. *A framework for financial regulation*. Ottawa: Author; distributed by Supply and Services Canada, 1987. Pp. x, 13. \$10.75, paper. ISBN 0-660-12320-7. JEL 87-1064

Examination of regulations affecting the activities of Canada's financial intermediaries and agents which includes proposals to improve the effectiveness of regulatory control over the financial system, strengthen public confidence in its stability, strengthen its ability to adapt to the changing needs of the Canadian people, and enable it to compete in rapidly changing international financial markets. Topics include: the changing environment, financial regulation in Canada, competition in the financial system, the soundness of financial institutions, and how well the financial system serves the needs of all Canadians. Also available in French. No index.

GOODHART, CHARLES; CURRIE, DAVID AND LLEWELYN, DAVID T., eds. *The operation and regulation of financial markets*. Studies in Monetary Economics series. London: Macmillan Press in association with the Money Study Group; distributed by Sheidan House, Dobbs Ferry, N.Y., 1987. Pp. xvi, 270. \$45.00. ISBN 0-333-43582-6. JEL 87-1065

Second of a new annual series of selected papers given at the regular meetings and annual conference of the Money Study Group. Contains ten papers given at the 1984-85 meetings and the annual conference held at Brasenose College, Oxford, in September 1985. Papers examine: U.K. banking supervision and the Johnson Matthey Affair; structural changes in the British capital markets; personal financial services in the United States; the variability of monetary growth; buffer-stock money; compulsory ratios and reduction in the volume of deposits; rational forecasts in models of the term structure of interest rates; monetary policy, private behavior, and the structure of interest rates in the United Kingdom: 1972-77; and variability in some major U.K. asset markets since the mid-1960s. Contributors are Economists. Goodhart is the Norman Sosnow Professor of Money and Banking at the London School of Economics and Political Science. Currie is Professor of Economics at Queen Mary College, University of London. Llewellyn is Professor of Money and Banking and Head of the Economic Department at Loughborough University. No index.

INGERSOLL, JONATHAN E., JR. *Theory of financial decision making*. Rowman and Littlefield Studies in Financial Economics. Totowa, N.J.: Littlefield, Adams; Rowman and Littlefield, 1987. Pp. xix, 474. \$39.50. ISBN 0-8476-7359-6.

JEL 87-1066

Textbook on the theory of financial economics directed primarily at doctoral students and researchers but also accessible to MBA and undergraduate students with an understanding of basic microeconomic theory and calculus. A mathematical introduction reviews notation, outlines advanced matrix operations, discusses constrained optimization, and examines probability. Discusses utility theory, arbitrage and pricing, portfolio analysis, and the theory of efficient markets. Examines single-period equilibrium models, including mean-variance analysis, the capital asset pricing model, complete markets theory, and general equilibrium considerations in asset pricing. Discusses multiperiod models with consideration given to discrete-time intertemporal portfolio selection, distributions of continuous-time finance, continuous-time portfolio selection, and option pricing. Provides an introduction to stochastic calculus and explores advanced topics in option pricing using Ito calculus. Examines the term structure of interest rates and considers questions of corporate capital structure. Ingersoll is Adrian C. Israel Professor of International Trade and Finance, School of Organization and Management, Yale University. Bibliography; index.

LEVITSKY, JACOB AND PRASAD, RANGA N. *Credit guarantee schemes for small and medium enterprises*. World Bank Technical Paper, no. 58. Industry and Finance Series, vol. 19. Washington, D.C.: World Bank, 1987. Pp. vi, 91. \$5.00, paper. ISBN 0-8213-0866-1.

JEL 87-1067

Provides information on a variety of credit guarantee schemes in twenty-seven developed and developing countries. Examines the essential elements, scope, and variety of such schemes and the problems they face in their operations. Analyzes the design, risk sharing, guarantee fees, handling claims, and financing of such schemes in developed countries in North America, Europe, and Asia and the Pacific and developing countries in Asia, Africa, and Latin America. Contends that efficiently managed guarantee schemes, with a realistic level of fees and revenues from investments, operated with a business approach and assuming only prudent risks, should be able to achieve financial autonomy while assisting small and medium enterprises. Levitsky is an operations adviser and Prasad is a staff member, Industry Department, World Bank. Selected bibliography; no index.

MACESICH, GEORGE. *Monetary policy and rational expectations*. New York and London: Greenwood Press, Praeger, 1987. Pp. x, 154. \$32.95. ISBN 0-275-92327-4.

JEL 87-1068

An analysis of the importance of expectations in formulating and executing monetary policy. Reviews the nature of the debate regarding monetary policy. Examines the international dimension of the search for a monetary regime. Outlines various forms of monetarism and investigates the relationship between monetarists, new classicalism, and rational expectations. Discusses the methodological and business cycle issues related to monetarism. Specifies a money supply equation to decompose the monetary growth rate into anticipated and unanticipated components, and assesses the evidence for the macro rational expectations hypothesis based on cross country data for 50 countries from 1955 to the present. Concludes with an examination of the implications of this debate for monetary policy and econometric modeling. Macesich is Professor of Economics and Director of the Center for Yugoslav-American Studies, Research, and Exchanges, Florida State University. Selected bibliography; index.

MAISEL, SHERMAN J. *Real estate finance*. San Diego; London; Sydney and Toronto: Harcourt Brace Jovanovich, 1987. Pp. xxv, 570. \$34.95. ISBN 0-15-575847-0.

JEL 87-1069

Introductory textbook for courses in real estate finance or investment. Incorporates advances in

the application of new concepts from finance, changes in analytical emphasis resulting from the Tax Reform Act of 1986, and the rapid change in the behavior of lenders. Part 1 provides a background for real estate financing, and examines: mortgages, interest rates, discount rates, present value, debt service, leverage, and rates of return. Part 2 describes the sources and availability of mortgage funds. Part 3 examines the financing of homes from the perspectives of both buyers and lenders. Part 4 discusses in detail the analysis for financing and investing in income properties, and presents several cases illustrating loan and investment analysis, the impact of tax reform, and lending and investing arrangements. Each chapter contains teaching aides, including: objectives, summaries, key terms, and questions. Maisel is Professor of Real Estate and Urban Economics at the University of California, Berkeley. Glossary; index.

- ROSE, PETER S. *The changing structure of American banking*. Columbia Studies in Business, Government, and Society series. New York and Guildford, England: Columbia University Press, 1987. Pp. xii, 419. \$45.00. ISBN 0-213-05990-9.

JEL 87-1070

Examines the changing structure of American banking since World War II. Discusses changes in numbers, relative size, geographic distribution, service, and organizational forms and assesses the impact of these structural changes on bank performance. Topics include: trends in the structure of American banking; bank structure and organization; entry and exit in American banking; the impacts of internal and external growth; concentration in the banking industry; branch banking; the conglomerate bank holding company; competition from nonbank thrift institutions; the rise of non-bank financial conglomerates; and the probable effects and future course of banking deregulation. Rose is Professor of Finance and holder of the Jeanne and John R. Blocker Chair of Business Administration at Texas A&M University. Index.

- SEIVER, DANIEL ALAN. *Outperforming Wall Street: Stock market profits through patience and discipline*. Englewood Cliffs, N.J.: Prentice-Hall, 1987. Pp. x, 208. Paper. ISBN 0-13-645235-3.

JEL 87-1071

Presents the author's patience and discipline (PAD) system for investing in the U.S. stock market. Sets out rules for individual stock selection and portfolio management, focusing on stocks that will outperform the market over the next three to five years. Discusses the best way to buy and sell stocks and describes techniques of market tim-

ing based on indicators to avoid either buying during periods of market overvaluation or selling during periods of market undervaluation. Considers interrelationships between the economy and the stock market, and presents a scenario for the U.S. economy for the rest of the century that is used as a basis for the author's recommendation to concentrate investments in high-technology stocks. Discusses efficient markets theory and offers rules for conservative and aggressive variants of PAD investing. Considers essential elements of stock options and financial futures trading, tax strategy, and information management. Seiver is Professor of Economics at Miami University, Oxford, Ohio. Index.

- SELIGMAN, BARNARD. *Choosing an investment company*. Cambridge, Mass.: Harper and Row, Ballinger, 1987. Pp. xvii, 174. \$29.95. ISBN 0-88730-094-4.

JEL 87-1072

A guide and sourcebook for evaluating investment companies and selecting appropriate funds. Topics include: financial markets; the characteristics of investment companies; bond and stock mutual funds; security selection; portfolio theory and management; performance of bond stock mutual funds; closed-end funds; real estate investment trusts; and financial planning. Seligman is a member of the Lubin Graduate School of Business, Pace University. Index.

- SOLOMON, ELINOR HARRIS, ed. *Electronic funds transfers and payments: The public policy issues*. Norwell, Mass.: Dordrecht and Lancaster: Kluwer Academic, Kluwer-Nijhoff, 1987. Pp. xi, 244. ISBN 0-89838-179-7.

JEL 87-1073

Nine essays examine the developing new financial technology affecting money, banks, and the payments media. Presents a multidisciplinary synthesis to help identify directions of change and major public policy issues. Essays examine money now and in the future; payments and the economic transactions chain; telecommunications policy issues; payment system risk, market failure, and public policy; international payments and electronic fund transfer links; monetary rules and control; monetary modeling in a world of financial innovation; new money and the old monopoly problem; and a consumer's view of electronic fund transfer. Solomon is Professor of Economics at the George Washington University. Index.

- TOMA, EUGENIA FROEDGE AND TOMA, MARK, eds. *Central bankers, bureaucratic incentives, and monetary policy*. Financial and Monetary Policy Studies series, vol. 13. Hingham, Mass., Dor-

drecht and Lancaster: Kluwer Academic, 1986. Pp. xiv, 251. \$57.50. ISBN 90-247-3366-9.

JEL 87-1074

Eleven papers, most previously published, examine the behavior of central banks. Part 1 focuses on the structure of central bank financing and bureaucratic rents, and discusses: the theory and practice of monetary policy; inflationary bias in the Federal Reserve System; and the use of inputs in the Federal Reserve System. Part 2 deals with the organization of central bank bureaus and problems of control, and covers: bureaucratic theory and the choice of central bank goals and instruments; research activities and budget allocations among Federal Reserve Banks; and banking sector influence on the relationship between Congress and the Federal Reserve System. Part 3 examines: the role of politics on policy making; an international comparison of central bank independence; and the possibility of a private central bank. The contributors are economists. E. F. Toma and M. Toma are members of the Departments of Economics at Auburn University and Miami University, respectively. No index.

WALTER, INGO, ed. *Deregulating Wall Street: Commercial bank penetration of the corporate securities market*. Wiley Professional Banking and Finance Series. New York; Chichester; Brisbane and Toronto: Wiley, 1985. Pp. xii, 315. ISBN 0-471-81713-9.

JEL 87-1075

Ten papers assess the impact of excluding commercial banks from originating, underwriting, and dealing in financial securities. Papers discuss: the role of banks in the economy; the legislative history of the Glass-Steagall Act; the performance of bank securities activities before 1933; the competitive effects of allowing commercial bank affiliates to underwrite corporate securities; the riskiness of equity underwriting by commercial bank affiliates; bank safety and soundness and the risks of corporate securities activities; the economic and legal aspects of possible conflicts of interest; the behavior of Eurobond markets where there is no separation of commercial and investment banking; and the implications for policy. The papers argue that the benefits of deregulation would significantly outweigh its costs. The contributors include economists. Walter is Professor of Economics and Finance at New York University. Index.

WILCOX, JAMES A., ed. *Current readings on money, banking, and financial markets*. FREDERIC S. MISHKIN, Consulting Editor. Boston and Toronto: Little, Brown, 1987. Pp. xii, 356. Paper. ISBN 0-316-94020-8.

JEL 87-1076

Thirty-five papers, all previously published, discuss current issues in monetary theory and policy, and finance. Designed for courses in undergraduate economics departments and business schools as well as MBA programs. Part 1 focuses on financial markets and interest rates. Part 2 deals with insurance and regulation of financial institutions as well as bank failures. Part 3 examines the need for redefinition of money, changes in the money supply, and the evolution of electronic fund transfer networks. Part 4 analyzes central banking and the conduct of monetary policy. Part 5 discusses recent developments in monetary theory, and part 6 deals with international finance. The contributors are mainly economists. Wilcox is at the School of Business Administration at the University of California, Berkeley. No index.

See also: Book Numbers JEL 87-0908, 87-1056, 87-1058, 87-1065, 87-1070, 87-1075, 87-1080, 87-1131

320 FISCAL THEORY AND POLICY; PUBLIC FINANCE

ARONSON, J. RICHARDS AND SCHWARTZ, ELI, eds. *Management policies in local government finance*. Third edition. Municipal Management Series. Washington, D.C.: International City Management Association for the ICMA Training Institute, [1975 . . . 1981] 1987. Pp. 449. \$19.95. ISBN 0-87326-075-9.

JEL 87-1077

The third edition of this textbook on municipal finance has been expanded and updated. Part 1 is devoted to the local government setting and covers the finance function; fiscal problems of the fragmented metropolis; fiscal structure in the federal system; and local government revenues and expenditures. Part 2 deals with management tools and covers forecasting; budgeting; financial accounting, reporting, and auditing; and computer applications. Part 3 examines revenue sources including property taxes; nonproperty taxes; and user charges and special districts. Part 4 analyzes financial management and covers debt management; public pension fund administration; inventory and cash management; purchasing and risk management; unions, wages, and local government finance; and capital budgeting. The contributors are mainly economists. Aronson and Schwartz are professors at Lehigh University. Selected bibliography; index.

AUERBACH, ALAN J. AND KOTLIKOFF, LAURENCE J. *Dynamic fiscal policy*. Cambridge; New York and Melbourne: Cambridge University Press, 1987. Pp. xv, 196. \$32.50. ISBN 0-521-30041-X.

JEL 87-1078

Analysis of the impact of fiscal policy on dynamic processes in the economy. Employs a dynamic, perfect foresight, general equilibrium, life-cycle model to examine various issues relevant to dynamic fiscal policy. Introduces and describes the general model in detail. Discusses simulation methodology and conducts simulation analysis to examine various fiscal policies including: tax reform; deficit financing; progressive taxation; investment incentives; and social security. Evaluates recent fiscal policy and speculates on its future content. Auerbach is Professor of Economics at the University of Pennsylvania. Kotlikoff is Professor of Economics at Boston University. Index.

BOSWORTH, BARRY P.; CARRON, ANDREW S. AND RHYNE, ELISABETH H. *The economics of federal credit programs*. Washington, D.C.: Brookings Institution, 1987. Pp. xii, 214. ISBN 0-8157-1038-0. JEL 87-1079

An analysis of the economic justifications for government credit programs. Examines and assesses the forms, rationale, evolution, and current need for government credit programs. Evaluates the economic effects of government credit and reviews loan programs in four areas—housing, small business, agriculture, and education. Examines the process of accounting and budgeting for credit programs, and new directions in government credit. Bosworth is Senior Fellow in the Brookings Economic Studies program. Carron is Vice President of First Boston Corporation. Rhyme is Project Development Advisor for the U.S. Agency for International Development in Kenya. Index.

CAMPAGNA, ANTHONY S. *U.S. national economic policy, 1917-1985*. New York and London: Praeger, 1987. Pp. xix, 642. \$55.00. ISBN 0-275-92428-2. JEL 87-1080

Provides a survey of macroeconomic policy making over most of the twentieth century "spanning the period when monetary institutions, tax law, and budgetary procedures, which make economic policy feasible, if not always acceptable, were in place." Examines major policies in terms of periods described by the political administrations. Discusses major economic problems during each of these, emphasizing what was done and the degree of success. Evaluates policies in terms of the prevailing economic orthodoxy. Organizes presentation around three questions: were the policies justified, successful, and rational. Part 1 presents the overall record of the U.S. economy from the beginning of the century, emphasizing events since the end of World War I. Part 2 covers the Great Depression, World War II, and the Truman administration, noting the acceptance of government inter-

vention in economic affairs. Part 3 extends the analysis to the Eisenhower years, Kennedy and the New Frontier, and Johnson and the Great Society. Part 4 treats economic policy in a changing world, discussing Nixon and the "Imperial Presidency," the Ford administration, and the Carter and Reagan years. The last part presents suggestions about the future of economic policy making and how it can be improved. Campagna is Professor of Economics at the University of Vermont. Bibliography; index.

LEWIS, GORDON H. AND MORRISON, RICHARD J. *Income transfer analysis*. New York: Immergut and Stolek, 1987. Pp. xx, 337. \$49.50. ISBN 0-915163-01-2. JEL 87-1081

Presents a conceptual framework for the analysis of the impact of government programs for income security and taxation on individuals and families. Outlines the key elements of a potential software system for such analysis and describes a specific software system, MAPSIT, that is currently available. Part 1 discusses problems of income transfer analysis and outlines the basic approach and design criteria. Part 2 describes the MAPSIT package, presents examples of its use in modeling income in transfer systems, discusses formats for secondary analysis, and describes other MAPSIT features. Part 3 focuses on applications and issues, and covers: elements of modeling practice; the uses and applications of MAPSIT; and problems and potentials with regard to policy usage. Lewis is at Carnegie-Mellon University. Morrison is associated with the Canadian Department of Health and Welfare. Index.

McLURE, CHARLES E., JR. *The value-added tax: Key to deficit reduction?* With a commentary by MARK A. BLOOMFIELD. AEI Studies in Fiscal Policy series, no. 450. Washington, D.C.: American Enterprise Institute for Public Policy Research; distributed by University Press of America, Lanham, Md., 1987. Pp. xi, 184. \$21.00, cloth; \$10.75, paper. ISBN 0-8447-3614-7, pbk. JEL 87-1082

Expands and updates the author's earlier discussion of the value-added tax (VAT), published in 1972. Describes the design and functioning as well as the economic effects of such a tax. Examines how this type of tax would affect international competitiveness, the distribution of the tax burden, and state and local taxes. Reviews alternative revenue sources and issues in the design of a value-added tax. Compares the VAT with other forms of general sales tax. Discusses possible ways of dealing with particular problem industries and issues of intergovernmental relations posed by a VAT. Includes an essay on the case for a value-

added tax by Mark A. Bloomfield. McLure is a Senior Fellow at the Hoover Institution. Index.

PECHMAN, JOSEPH A., ed. *Tax reform and the U.S. economy*. Brookings Dialogues on Public Policy series. Washington, D.C.: Brookings Institution, 1987. Pp. ix, 107. Paper. ISBN 0-8157-6959-8. JEL 87-1083

Four papers, and comments, given at a conference at the Brookings Institution in December 1986, outline the major features of the tax reform of 1986 and assess its potential economic effects. Henry J. Aaron describes the important provisions of the tax bill, its major accomplishments, and missed opportunities. Larry I. Dildine examines the impact of the bill on American industry, and Eugene Steuerle analyzes the effect of the tax law on financial decisions. Patric H. Hendershott, James R. Follain, and David C. Ling estimate the impact of the bill on housing and real estate markets. Pechman is associated with the Brookings Institution. No index.

RAZIN, ASSAF AND SADKA, EFRAIM, eds. *Economic policy in theory and practice*. New York: St. Martin's Press, 1987. Pp. xli, 552. \$32.50. ISBN 0-312-23453-8. JEL 87-1084

Fourteen papers with comments presented at a conference on economic policy in theory and practice held in May 1984 at Tel-Aviv University in memory of Abba P. Lerner (1903-1982). Contributions examine: the economics of public deficits; the international transmission of the effects of fiscal outlays and budget deficits; fiscal policy in open, interdependent economies; optimal currency substitution policy and public finance; inflation and the government budget constraint; international capital flows and the world debt problem; capital flows between developing and developed countries; the political economy of Leviathan; capital gain taxation on non-Austrian assets; right of way and congestion toll; corporate taxation in the United States; a dynamic model of the effect of labor unions on investment in training; corporate governance and market structure; and vertical integration and the distribution of property rights. Contributors are economists. Razin and Sadka are Professors of Economics at Tel-Aviv University. Author index.

UNITED NATIONS, DEPARTMENT OF TECHNICAL CO-OPERATION FOR DEVELOPMENT, DEVELOPMENT ADMINISTRATION DIVISION. *The role of the public sector in the mobilization of domestic financial resources in developing countries*. New York: United Nations, 1986. Pp. 148. \$9.00, paper. JEL 87-1085

Report and background papers of an interregional seminar on the role of the public sector in the mobilization of domestic financial resources for social and economic development of developing countries that was sponsored by the United Nations Department of Technical Co-operation for Development and held at the headquarters of the Economic and Social Commission for Asia and the Pacific in Bangkok, Thailand, in December 1985. Part 1 is the seminar report adopted by the participants and focuses on: the trends and structural changes in resource mobilization in the public sector; budgetary policy in developing countries; domestic resource mobilization—financial institutions and policy; and surplus generation by public enterprises for national economic development. Part 2 contains four background papers on the above topics. Also available in Arabic, Chinese, French, Spanish, and Russian. No index.

WILDASIN, DAVID E. *Urban public finance*. Fundamentals of Pure and Applied Economics series, Regional and Urban Economics section, vol. 10. Chur, Switzerland; London; Paris and New York: Harwood Academic, 1986. Pp. viii, 175. \$15.00, paper. ISBN 3-7186-0334-9. JEL 87-1086

Reviews current developments in urban public finance. Discusses basic principles of resource allocation in economies with local governments, focusing on: locational efficiency, positive and normative analysis of local public expenditure, and Tiebout models of household mobility and public expenditure. Evaluates the distributive and efficiency effects of property taxation and examines the question of land value taxation. Considers various intergovernmental fiscal relations such as: interjurisdictional benefit spillovers; tax exporting, tax competition, and optimal local taxation; household mobility; and intergovernmental transfers. Wildasin is Associate Professor of Economics, Indiana University. Index.

WORLD BANK. *Haiti: Public expenditure review*. World Bank Country Study series. Washington, D.C.: World Bank, 1987. Pp. xix, 254. \$15.00, paper. ISBN 0-8213-0872-6. JEL 87-1087

Analyzes public expenditure in Haiti from a development perspective; based on a World Bank mission in October–November 1985. Reviews public expenditure in the context of economic stagnation, the need for structural reform, and a proposal that Haiti adopt a three-year rolling investment program. Discusses: the level and control of recurrent and investment public expenditure, including public sector employment; the role of aid donors; and the agricultural, public industrial enterprises, electric power, transport, telecommunications, ur-

ban, water supply, education, and health sectors. Recommends a public expenditure program for FY 86-89; also contains sector-specific recommendations. About half of the book consists of economic projections, a statistical appendix, and project-by-project data. No index.

See also: Book Numbers JEL 87-1038, 87-1059, 87-1086, 87-1149, 87-1155, 87-1230

400 International Economics

GILPIN, ROBERT. *The political economy of international relations*. With the assistance of JEAN M. GILPIN. Princeton, N.J.: Princeton University Press, 1987. Pp. xvi, 449. \$45.00, cloth; \$9.95, paper. ISBN 0-691-07732-0. JEL 87-1088

Analysis of the political and economic aspects of international relations. Defines international political economy as the interaction between the state and the market, and evaluates the liberal, nationalist, and Marxist perspective on this interaction. Examines the dynamics of the international political economy, and the evolution and characteristics of the international monetary system. Discusses key issues relevant to the politics of international trade, and analyzes the role of multinational corporations and international production. Addresses the issue of dependency and economic development and describes the political economy of international finance. Reviews recent structural changes in the global political economy and considers the impact of the emergent international economic order. Gilpin is Dwight D. Eisenhower Professor of International Affairs at Princeton University. Index.

KREININ, MORDECHAI E. *International economics: A policy approach*. Fifth edition. San Diego; London; Sydney and Toronto: Harcourt Brace Jovanovich, Academic Press, [1971 . . . 1983] 1987. Pp. xiii, 465. \$32.95. ISBN 0-15-541538-7.

JEL 87-1089

Fifth edition of this textbook has been revised and updated to incorporate major events in the international economy that have occurred since the publication of the fourth edition. These events include: the rise and decline in the value of the dollar, the oil glut, external debt of less developed countries, the rise of protectionism, and the new round of trade negotiations. New topics include: sector specific factors, international trade under monopolistic competition, export subsidies, trade policy under oligopoly, and the political economy of protectionism. End-of-chapter review questions have been added to assist students in identifying

and retaining key concepts. [For annotation of previous edition see JEL no. 84-0151.] Kreinin is at Michigan State University. Bibliography; index.

UNITED NATIONS, DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS. *World economic survey 1986: Current trends and policies in the world economy*. U.N. Publications Sales No. E.86.II.C.1. New York: United Nations, 1986. Pp. x, 177. Paper. ISBN 92-1-109110-1. JEL 87-1090

Overviews the world economy in 1985 and early 1986 and makes projections for 1986 and 1987. The general theme of this year's annual survey is the interaction between the recent shift in perceptions and the domestic actions and cooperative international policy initiatives taken in 1985 with the changes in underlying economic conditions in the world economy. Analyzes reasons for the growth retardation in 1985, projects continuing large imbalances into 1986 and 1987, and estimates the impact of a further decline in oil prices and further depreciation of the dollar. Considers: the reduction in responsiveness of international trade to world output; world payments imbalances; the strengthening of the international trading system and reform of the international monetary system; and relationships between capital formation and adjustment in developing, centrally planned, and major industrial countries. The last chapter addresses the critical economic situation in Sub-Saharan Africa as the major development challenge of the present decade. Statistical annexes. Also available in French, Russian, and Spanish. No index.

410 INTERNATIONAL TRADE THEORY

BHAGWATI, JAGDISH. *The theory of commercial policy: Essays in international economic theory*. Volume 1. Paperback reprint. Edited by ROBERT C. FREENSTRA. Cambridge, Mass. and London: MIT Press, [1983] 1987. Pp. xi, 628. Paper. ISBN 0-262-52120-2. JEL 87-1091

Paperback reprint of the first of two volumes containing a selection of the author's writings in the theory of international trade and commercial policy since 1958. [See JEL no. 84-0453 for annotation of original edition.]

ITALIANER, ALEXANDER. *Theory and practice of international trade linkage models*. Advanced Studies in Theoretical and Applied Econometrics series, vol. 9. Norwell, Mass.; Dordrecht and Lancaster: Kluwer Academic, Martinus Nijhoff, 1986. Pp. xi, 393. ISBN 90-247-3407-X. JEL 87-1092

Discusses the econometric modeling of international trade linkages. Reviews existing trade link-

age models, develops the theory needed to derive estimation-consistent import allocation models in a framework of neoclassical optimization, and presents and tests a new import allocation model based on the CRESH aggregator function. Chapters examine the linkage system, import allocation models, the use of elasticities of substitution, maximum likelihood estimation of nonlinear models with linear constraints on the functional form, and the economic specification, data, estimation, and hypothesis testing of the new model presented. Provides an overview of the results and presents suggestions for further research. Author and subject indexes.

See also: Book Numbers JEL 87-1044, 87-1111

420 TRADE RELATIONS; COMMERCIAL POLICY; INTERNATIONAL ECONOMIC INTEGRATION

BRADFORD, COLIN I., JR., AND BRANSON, WILLIAM H., eds. *Trade and structural change in Pacific Asia*. National Bureau of Economic Research Conference Report series. Chicago and London: University of Chicago Press, 1987. Pp. xix, 558. \$58.00. ISBN 0-226-07025-5. JEL 87-1093

Sixteen papers originally presented at a conference organized by the National Bureau of Economic Research and entitled "Global Implications of the Trade Patterns of East and Southeast Asia." The conference was held in Kuala Lumpur, Malaysia, in January of 1984. Addresses two main themes: how South Korea, Taiwan, Hong Kong, and Singapore emerged as major manufacturing centers and the degree to which Malaysia, Thailand, the Philippines, and Indonesia will follow a similar path of development. The introductory chapter by the editors integrates the main points that emerged from conference discussions. Five papers consider the role of Pacific Asia in global trade patterns with respect to the United States, the European Community, and Japan, as well as the implications of recent U.S. trade policy and Project Link. Three papers examine structural change and transitional growth in the region. The remaining papers examine trade patterns and trends in eight Asian countries. Bradford is Associate Director, Yale Center for International and Area Studies, Yale University. Branson is Professor of Economics and International Affairs, Woodrow Wilson School of Public and International Affairs, Princeton University. Author and subject indexes.

CASTILLO, CARLOS MANUEL. *The economic integration of Central America in its next stage: Problems and opportunities*. Washington, D.C.: Interamerican Development Bank, Institute for Latin Ameri-

can Development (INTAL), 1986. Pp. iv, 79. Paper. JEL 87-1094

Presents the outlines of a regional cooperation program for the five countries of Central America based on a meeting of Central American experts held by the Institute for Latin American Integration (INTAL) in Tegucigalpa, Honduras, in December 1985. Proposes that the Central American crisis is all-embracing and imperils the political and economic viability of the countries in the region. Argues that it is possible to recover from it by means of an integral reconstruction process. Discusses reconstruction of on a new economic pattern, on reorientation of the regional economic space, integration and economic reconstruction, integration and social development, and implementation of the next integration stage. No index.

HAYES, J. P. *Economic effects of sanctions on Southern Africa*. Thames Essay series, no. 53. Aldershot, England; Brookfield, Vt.; Hong Kong and Sydney: Gower for the Trade Policy Research Centre, London, 1987. Pp. xii, 100. £7.95, paper. ISBN 0-566-05539-2. JEL 87-1095

Analysis of the potential economic effects of sanctions on South Africa, neighboring countries, and the countries imposing sanctions. Reviews the arguments regarding the imposition and effectiveness of sanctions. Examines the history of economic sanctions against South Africa up to February 1987 and assesses the possible nature, extent, and future escalation of those sanctions. An appendix presents a model to assess the nature and extent of adjustment in the South African economy in the face of sanctions. Hayes is Senior Fellow at the Trade Policy Research Centre, London. No index.

INSTITUTE FOR LATIN AMERICAN INTEGRATION AND INTER-AMERICAN DEVELOPMENT BANK. *The Latin American integration process in 1984*. Buenos Aires: Institute for Latin American Integration, 1987. Pp. 400. Paper. JEL 87-1096

This annual report assesses the status of Latin American economic integration and cooperation. Reviews developments in the world and Latin American economies during 1984 and explores the institutional, trade, aid, legal, economic, and monetary and financial aspects of the Latin American Integration Association (LAIA) as well as the Andean Group, the Central American Common Market, and the Caribbean Community. Evaluates the Latin American Economic Conference at Quito, assesses the Latin American Economic System countries' position in economic relations with industrialized countries and at international economic forums, and examines the state of intraregional cooperation. Examines financial

cooperation, and the nature of multilateral programs and other forms of cooperation. Presents an evaluation of the process of integration and a chronology of main regional integration events in 1984. No index.

KAKABADSE, MARIO A. *International trade in services: Prospects for liberalization in the 1990s*. Atlantic Paper series, no. 64. London; New York and Sydney: Croom Helm for the Atlantic Institute for International Affairs, 1987. Pp. 90. £7.95, paper. ISBN 0-7099-3130-1. JEL 87-1097

Analysis of the key issues associated with the expansion of international trade in services. Examines the changing role of services in national economies and the associated changes in the character of service industries. Describes the evolution of the new international service economy and outlines the policy issues and perspectives relevant to attempts at trade liberalization. Outlines a possible work program for services trade negotiations. Argues that successful negotiation of rules for trade in international services depends on the existence of real political commitment on the part of governments. Kakabadse is Research Associate at the Atlantic Institute for International Affairs. No index.

PREEG, ERNEST H. AND BENDAHMANE, DIANE B., eds. *New dimensions in foreign economic policy: Industrial-oil-banking*. Washington, D.C.: U.S. Department of State, Foreign Service Institute, Center for the Study of Foreign Affairs, 1986. Pp. xiii, 118. \$3.75, paper. JEL 87-1098

Twenty-three articles, originally presented at three symposia on foreign economic policy held at the Center for the Study of Foreign Affairs, examine recent changes in energy prospects and policy, international banking, and national industrial policy and the international economic system. An overview examines the decade of the 1970s during which the new era originated. Part one, dealing with energy prospects and policy ten years after the first oil shock, discusses: the world oil market, energy security, and U.S. interests and foreign policy concerns. Part 2 is concerned with international banking and the debt crisis, and examines: the prospects for lending to the LDCs, international financial institutions and the role of commercial financing, U.S. interests and policy implications, and a desirable structure for official and commercial lending to developing countries. Part 3, dealing with national industrial policy and the international economic system, reviews experiences in Japan, France, South Korea, and Brazil and presents implications for U.S. trade and aid policy. Preeg is a visiting fellow at the Center for the Study of Foreign Affairs. Bendahmane is a Washington-

based editor and publications specialist. Bibliography; no index.

RUBNER, ALEX. *The export cult: A global display of economic distortions*. Boulder, Colo.: Westview Press; Aldershot, England: Gower, 1987. Pp. xiv, 318. \$37.50. ISBN 0-8133-0514-4.

JEL 87-1099

Examines the validity of the arguments for export promotions. Describes the general picture of export subsidies and discusses the use of VALAD, a measure of net foreign currency value of a unit of export, to determine whether the activity profits the exporting country. Examines a wide range of techniques to encourage exports such as subsidies, exchange rate manipulation, insurance, subsidized credit, and tax incentives. Discusses the adverse impacts of various export incentives on the economy. Reviews alternatives and makes conjectures about the role of exports in the 1990s in OECD countries. Appendices contain supporting materials and case studies. Rubner is an economic consultant and writer on economics. Index.

See also: Book Numbers JEL 87-1010, 87-1015, 87-1033, 87-1035, 87-1044, 87-1091, 87-1120, 87-1139, 87-1170

430 OPEN ECONOMY MACROECONOMICS; EXCHANGE RATES; INTERNATIONAL FINANCE

BALASSA, BELA AND WILLIAMSON, JOHN. *Adjusting to success: Balance of payments policy in the East Asian NICs*. Policy Analyses in International Economics series, no. 17. Washington, D.C.: Institute for International Economics, 1987. Pp. x, 121. \$10.00, paper. ISBN 0-88132-061-7.

JEL 87-1100

An evaluation of the economic and financial condition of Asian newly industrializing countries within the context of their developmental requirements. Discusses balance-of-payments targets and policies, and highlights: optimal foreign borrowing and lending; exchange rate protection; and adjustment policies. Presents a comparative perspective on the development experience of Hong Kong, Singapore, South Korea, and Taiwan, focusing on the reasons for their economic success, policies, and recent changes in exchange rates. Details trends in exchange rates, saving and investment rates, and other economic indicators for these countries and discusses their role in the global adjustment process. Appendices discuss key issues relevant to the calculation and use of exchange rates and the estimation of the effect of exchange-rate changes. Balassa is Professor of Political Economy at the Johns Hopkins University. Williamson is Senior Fellow at the Institute for International Economics. No index.

IE, WILLIAM R. *Mobilising bank lending to debtor countries*. Policy Analyses in International Economics series, no. 18. Washington, D.C.: Institute for International Economics, 1987. Pp. viii, . \$10.00, paper. ISBN 0-88132-062-5.

JEL 87-1101

Analysis of the possibilities for increased mobilization of new financing to debtor countries from private banks. Outlines the policy setting for this initiative as part of the strategy of debt management. Presents a proposal for new-money packages that would choose the financing mechanism according to the preferences of different classes of banks. Describes the mechanism in this package that would permit voluntary exit as well as the mechanism for enforcement. Discusses how such a package would fulfill the objectives of meeting cash flow needs and equivalent burden sharing as well as monitoring requirements. Reviews the domestic monetary implications of lending options and discusses the future direction of debt management. Appendices present a brief overview of the debt problem in early 1987, and debt strategy and proposals for relief. Cline is Senior Fellow at the Institute for International Economics. No index.

FEY, PETER. *The European monetary system—past, present and future*. Second revised edition. Dordrecht and Lancaster: Kluwer Academic, [1984] 1987. Pp. x, 163. \$33.50. BN 90-247-3446-0.

JEL 87-1102

Assesses structural changes that have taken place in the European Monetary System (EMS) since the first edition and incorporates proposals that have been made for the future of the system. [See no. 85-1064 for annotation of first edition.] Only minor additions have been made to the text of the first edition and an assessment of recent changes and proposals is placed in a supplement following the original text. Credits the EMS as a real success story of the Common Market since the First Enlargement and places the experience in a major historical context wherein the System is viewed as a transitional phase on the way to implementing a full economic and monetary union. Fey is Head of the Economics Section of the Europa Institute, University of Amsterdam. Index.

EDWARDS, SEBASTIAN AND EDWARDS, ALEJANDRA. *Monetarism and liberalization: The Chilean experiment*. Cambridge, Mass.: Harvard University Press, 1987. Pp. xxi, 233. \$29.95. ISBN 0-673-105-3.

JEL 87-1103

Analyses the problems and achievements of Chile's economic experiment in detail, emphasizing the role of policy mistakes in the final disappointing outcome of the liberalization program. Presents

background information and an overview of the experiment designed to liberalize the economy through reforms directed at increasing the role of the market mechanism and reducing existing barriers to international trade and capital movements. Explains why the experiment collapsed by 1982 when Chile entered into a deep recession. Analyzes the military stabilization program and the behavior of the interest rate and the real exchange rate. Discusses privatization and deregulation, and aspects of the liberalization of international trade. Develops a model of the labor market to explain the persistence of unemployment and examines the sequencing of the liberalization reforms. Concludes with a discussion of the lessons learned from the Chilean experience. S. Edwards is Associate Professor of Economics at the University of California, Los Angeles. A. Edwards is an assistant professor at California State University, Long Beach. Bibliography; index.

FRIEDMAN, IRVING S. *Toward world prosperity: Reshaping the global money system*. Lexington, Mass. and Toronto: Heath, Lexington Books, 1987. Pp. xiii, 317. \$24.95. ISBN 0-669-11564-9.

JEL 87-1104

Sets forth the author's views about remedying the failures of the global financial system in meeting the needs of the third world. Examines the breakdown of the system; the world economy and the mixed international financial system; conceptions and misconceptions of international banking; sources of international finance; origins of the debt crisis of the 1980s; responses to the crisis; implications of the current crisis for the restoration of creditworthiness; and preconditions for the restoration of creditworthiness. Presents proposals for strengthening the international financial system and discusses the need for a new Bretton Woods Conference. Friedman has served a number of financial institutions, including the U.S. Treasury, the World Bank, the International Monetary Fund, and Citicorp. Glossary; index.

HILDEBRAND, JOHN R. *Monetary integration: Key currencies contributing equitably to development*. Bristol, Ind.: Wyndham Hall Press, 1987. Pp. viii, 81. \$12.95, paper. ISBN 1-55605-004-0.

JEL 87-1105

Analysis of the progress of monetary integration in different areas of the world. Examines Central American currency problems and global and regional problems associated with monetary integration between Panama and Central America. Assesses the experience of monetary integration between the United States, the Dominican Republic, and Liberia. Discusses the problem of distribu-

tion of seigniorage gains and evaluates future prospects for monetary integration. Index.

- MYERS, ROBERT J., ed. *The political morality of the International Monetary Fund: Ethics and foreign policy*. Volume 3. New Brunswick, N.J. and Oxford: Transaction Books for the Carnegie Council on Ethics and International Affairs, 1987. Pp. 184. \$24.95, cloth; \$14.95, paper. ISBN 0-88738-674-1, pbk. JEL 87-1106

Eleven papers analyze the recent approach of the IMF and possible means of improving its methods of assisting financially troubled governments. Topics include: possible reforms of the IMF; a founder's evaluation; a critique of IMF conditionality; a U.S. labor perspective on the IMF's role in the international economy; a critique of the IMF's operation in Africa; the debt crisis; the ideological proclivities and political dilemmas of the IMF; the impact of IMF conditionality on agriculture in developing countries; the role of the IMF as market maker for official business between nations; an analysis of the new role of the IMF; and an assessment of the Baker plan. The contributors are mainly economists. Myers is President of the Carnegie Council on Ethics and International Affairs, New York City. Index.

- PATRICK, HUGH T. AND TACHI, RYUICHIRO, eds. *Japan and the United States today: Exchange rates, macroeconomic policies, and financial market innovations*. New York: Center on Japanese Economy and Business, Columbia University, 1987. Pp. vii, 234. \$25.00. ISBN 0-231-06575-2. JEL 87-1107

Sixteen papers and comments presented at a conference held in New York City in June 1986. Part 1 focuses on macroeconomic policy and performance, and reviews the prospects for redressing current account imbalances by appropriate macroeconomic policies in Japan and the United States. Part 2 deals with recent developments in the yen-dollar relationship and discusses its antecedents, its implications for the U.S.-Japan relationship, and the prospects for exchange rate stability. Part 3 discusses financial market innovations and focuses on: present and future conditions; the internationalization of investment banking; comparative studies of financial innovation, deregulation, and reform in Japan and the United States; and Japanese financial liberalization. Part 4 examines asymmetry of institutional features as a source of trade frictions and assesses the political implications of U.S.-Japan economic relations. The contributors are mainly economists and businessmen. Patrick is R. D. Callins Professor of International Business and Director of the Center on Japanese Economy and Business, Graduate School of Business, Co-

lumbia University. Tachi is President of the Institute of Fiscal and Monetary Policy, Japan Ministry of Finance. No index.

- POOL, JOHN CHARLES AND STAMOS, STEVE. *The ABCs of international finance: Understanding the trade and debt crisis*. Lexington, Mass. and Toronto: Heath, Lexington Books, 1987. Pp. xii, 138. \$23.00. ISBN 0-669-15605-1. JEL 87-1108

Analysis of the nature of the international financial sector in the twentieth century, focusing on: the fluctuations of the U.S. dollar; the effect and consequences of the changes in oil prices; the origins and effects of the third world debt crisis; and the antecedents and causes of the U.S. trade problem. Reviews the theoretical view of international trade and finance, and outlines the historical evolution of the international monetary system. Analyzes the causes and consequences of the U.S., third world, and Mexican debt crises. Concludes with an examination of the prospects of future debt crises and the limits of orthodox policy. Pool is head of Charles Pool and Associates, Rochester, New York. Stamos is Associate Professor of Economics at Bucknell University. Index.

- SCAMMELL, W. M. *The stability of the international monetary system*. Totowa, N.J.: Littlefield, Adams; Rowman and Littlefield, 1987. Pp. viii, 162. \$29.50, cloth; \$11.95, paper. ISBN 0-8476-7541-6, pbk. JEL 87-1109

Examination of the international monetary system. Discusses the necessities of the system and traces its evolution. Analyzes the nature of international money and alternative approaches to setting exchange rates. Describes various theoretical approaches to adjustment. Reviews the role and mechanism of capital flows and the nature of control of the international monetary system. Concludes that the international monetary system is more stable and amenable to control than would appear at first sight. Scammell is Professor of Economics at McMaster University, Ontario. Index.

- ZERBATO, MICHEL, ed. *Keynésianisme et sortie de crise: Keynes contre le libéralisme? (Keynesianism and crisis end: Keynes against liberalism?)*. Paris: Dunod; distributed in North America by Diffusion, Montreal, 1987. Pp. viii, 268. Fr 145.00, Can\$ \$42.00, paper. ISBN 2-04-016957-1. JEL 87-1110

Thirteen economists address the issue of renewed Keynesian policy. Following a review of Keynes's global vision of the economy, they argue that his interventionism was not to be conceived as a gradual shift toward socialism, but rather a search for full employment in a framework of a free-market system. They re-examine the recent

difficulties of effective Keynesian policy by studying the rigidity of supply and the destabilization of global demand caused by interdependency of world economies, particularly with respect to the systems of payments. The third part proposes a reform of the international monetary system as a requirement for an effective Keynesian policy. Zerbato is at the University of Bordeaux. Subject index. [Jean Mirucki]

See also: Book Numbers JEL 87-1020, 87-1056, 87-1088, 87-1110

440 INTERNATIONAL INVESTMENT AND FOREIGN AID

BHAGWATI, JAGDISH. *International factor mobility: Essays in international economic theory*. Volume 2. Paperback reprint. Edited by ROBERT C. FEENSTRA. Cambridge, Mass. and London: MIT Press, [1983] 1987. Pp. x, 562. Paper. ISBN 0-262-5121-0. JEL 87-1111

Paperback reprint of the second of two volumes of selected essays on international trade focusing on international factor mobility. [See JEL no. 84-0481 for annotation of original edition.]

BIERSTEKER, THOMAS J. *Multinationals, the state, and control of the Nigerian economy*. Princeton: Princeton University Press, 1987. Pp. xvii, 344. \$45.00, cloth; \$12.50, paper. ISBN 0-691-07728-2. JEL 87-1112

Examines Nigeria's experience with indigenization and control of its national economy. Reviews six alternative theoretical approaches to international political economy, including: conservative neoclassical realism, liberal internationalism, structuralism, vulgar and sophisticated dependencistas, and classical Marxism. Examines the sources, objectives, and consequences of Nigeria's two-phased indigenization program. Discusses: the first indigenization decree and fronting, commercial consolidation, and inequality; the second indigenization decree and the state as initiator; multinational responses to the second decree; and the control of finance and the development of capitalism in Nigeria. Biersteker is Associate Professor in the School of International Relations and Director of the Center for International Studies, University of Southern California. Bibliography; index.

CASSON, MARK. *The firm and the market: Studies on multinational enterprise and the scope of the firm*. Cambridge, Mass.: MIT Press, 1987. Pp. xii, 283. \$27.50. ISBN 0-262-03129-0. JEL 87-1113

Develops the modern theory of the multinational enterprise (MNE) to encompass the firm in gen-

eral. Extends the analysis of the MNE to incorporate contemporary phenomena, such as strategic rivalry between MNEs and the restructuring of their global operations. Contends that, when extended along these lines, the analysis of the MNE provides the basis for a general theory of corporate organization over space, and shows that the ramifications of the theory of the MNE go well beyond the areas to which it traditionally has been applied. Illustrates how the theory can be used for case study investigations and for formulations of policy. Includes discussions of applications of the analysis of quality control to the construction industry in the United Kingdom, vertical integration in the shipping industry, and foreign divestment and rationalization in the motor industry. Considers areas of future research needed to understand the forces affecting the evolution and growth of the MNE. Casson is Professor of Economics, University of Reading. Bibliography; index.

DAVIS, E. P. *Rising sectoral debt/income ratios: A cause for concern?* BIS Economic Papers series, no. 20. Basel, Switzerland: Bank for International Settlements, Monetary and Economic Department, 1987. Pp. 101. Paper. JEL 87-1114

Analysis of the impact of the rising ratio of debt to income in both the public and private sectors. Outlines the causes of growing debt and the concerns of monetary authorities in this regard. Documents debt-income ratios for 1966-85 for the United States, the United Kingdom, West Germany, Japan, and Canada. Presents a theoretical analysis of the relationship between debt and stability, and examines: the determinants of interest rates on debt; the issue of bankruptcy; and the sectoral demand for credit. Discusses the experience of major economies with the relationship between debt and financial stability. Conducts an econometric analysis of the determinants of lending risk and interest rates. Concludes that concerns regarding rising debt-income ratios are justified and outlines issues relevant to planned policy responses. Davis is a member of the Monetary and Economic Department of the Bank for International Settlements. No index.

DE LUPIS, INGRID DETTER. *Finance and protection of investment in developing countries*. Second edition. Aldershot, England and Brookfield, Vt.: Gower in association with the London School of Economics and Political Science, [1975] 1987. Pp. xvii, 185. \$41.50. ISBN 0-566-05465-5. JEL 87-1115

Second edition focuses on the legal framework of foreign investment. This edition has been updated and includes a new introduction. Discusses: incentives to invest in developing countries; the

legal value of state undertakings; conflicts of interest between territorial sovereignty and safety of investment; international law relating to nationalization; international settlement of investment disputes; investment guarantee schemes and insurance against nationalization risks; and the trend toward joint ventures. De Lupis is a lawyer and conducts a course on the international legal order at the London School of Economics and Political Science. Index.

ENGBERG-PEDERSEN, POUL. *World Bank management of structural crises in Africa. The energy sector*. CDR Research Report series, no. 9. Copenhagen: Centre for Development Research, 1986. Pp. 149. Paper. ISBN 87-88467-30-9.

JEL 87-1116

Examines whether the States of Sub-Saharan Africa (SSA) and Western donor agencies that provide most of official development finance on the subcontinent have acknowledged the extent of structural crisis in SSA development and are changing their policies and programs accordingly. Uses the World Bank as a case study for donor strategies and the energy sector as a case study of the awareness of structural crisis found in present government and donor policies and programs. The bulk of the report analyzes the global energy crises and the effects of current energy policies and programs on structural adjustment in Africa and presents alternative energy policies for structural adjustment in Sub-Saharan Africa. The study also assesses contradictions in the World Bank approach and with World Bank energy assistance. Concludes that for the World Bank to fulfill a role of guarantor of national economic development in low-income countries it must overcome: (1) the dilemmas of dependence on state apparatuses to implement structural adjustments that include a change and reduction in state intervention and (2) reliance on a series of development projects to achieve macroeconomic growth and structural change. The author is Researcher, Centre for Development Research, Copenhagen, Denmark. No index.

GLICK, REUVEN. *Economic perspectives on foreign borrowing and debt repudiation: An analytic literature review*. Monograph Series in Finance and Economics, Monograph 1986-4. New York: New York University, Graduate School of Business Administration, Salomon Brothers Center for the Study of Financial Institutions, 1987. Pp. 82. \$7.00, paper.

JEL 87-1117

Analytical survey of the literature regarding the debt situation of developing countries. Presents the historical background to the current state of indebtedness and reviews models of the dynamic

relationship between debt and growth. Evaluates models of optimal debt with repayment and those that explicitly account for resource limitations and credit constraints. Examines models that consider the possibility of debt repudiation and estimate its costs. Discusses models that consider the impact of asymmetries of information between lenders and borrowers on the possibility of debt repudiation and describes models that focus on liquidity problems and rescheduling. Highlights the role of expectation, information, and international organizations. Glick is an economist in the Research Department of the Federal Reserve Bank of San Francisco. No index.

MOSLEY, PAUL. *Foreign aid: Its defense and reform*. Lexington, Ky.: University Press of Kentucky, 1987. Pp. xiv, 284. \$25.00. ISBN 0-8131-1608-2.

JEL 87-1118

An analysis of the pattern of allocation and effect of foreign aid. Reviews the theoretical case for overseas aid as a public good. Examines the international politics of aid and the nature of community and conflict among aid donors. Presents a formal model of the determination of bilateral aid disbursements and discusses the allocation of aid in recipient countries. Reviews the evidence for the effectiveness of aid as an instrument of development, a redistributive tool, and as an export subsidy. Concludes that aid has been unsuccessful as an instrument of political leverage and export promotion. Argues that the case for aid rests on the increase in growth rates of some recipient countries and the improvement of living standards of some poor people. Mosley is Professor of Development Economics and Policy at the University of Manchester. Bibliography; index.

MOWERY, DAVID C. *Alliance politics and economics: Multinational joint ventures in commercial aircraft*. Competing in a Changing World Economy Project series. Washington, D.C.: American Enterprise Institute for Public Policy Research; Cambridge, Mass.: Harper and Row, Ballinger, 1987. Pp. xi, 194. ISBN 0-88730-213-0.

JEL 87-1119

Analyzes the causes and consequences of international joint ventures in the commercial aircraft industry, focusing on ventures involving U.S. aircraft and engine producers and foreign enterprises. Discusses the motives for participation by U.S. firms, managerial and organizational factors that affect the success or failure of projects, and consequences for the structure and competitiveness of the industry. Describes the general characteristics of international joint ventures and considers implications of interfirm cooperation. Surveys recent

developments in the competitive and technological environment of the U.S. aircraft industry and examines several joint ventures, including the Boeing 767 and 7J7, CFM56 and V2500 engines, the McDonnell Douglas Mercure 200 project, the General Electric SNECMA, and the Saab-Fairchild 340 commuter aircraft. Considers the approach of foreign firms and governments to joint ventures with studies of industries in Japan, Brazil, and Sweden. Considers the complications of joint ventures for U.S. policy makers and corporate managers. Mowery is Associate Professor of Economics and Social Sciences, Carnegie-Mellon University. Bibliography; index.

NEMETZ, PETER N., ed. *The Pacific Rim: Investment, development and trade*. Vancouver: University of British Columbia Press, 1986. Pp. ix, 319. \$19.95, paper. ISBN 0-7748-0266-8. JEL 87-1120

Ten papers and an introduction by the editor examine the past pattern and future prognosis of trade, investment, and development of Pacific Rim countries and the critical role of energy supply and demand in their development and interdependence with other global regions. Also issued as the *Journal of Business Administration*, volume 16, numbers 1-2. Specific topics include: the pattern of Japan's investment and trade with other nations; ASEAN in Pacific Basin trade; investment, growth, and employment in Thailand; Chinese overseas investment in the Pacific Rim; the role of Pacific ocean minerals; comparison of post-1973 changes in the energy systems of Japan and China; the role played by governments in the development and trade of petroleum resources in the Pacific Rim; factors affecting steam coal trade in Asia and the Pacific; the British Columbia coal industry and Pacific Rim trade and investment; and Canada's role in Pacific Rim integration. Contributors are mainly economists and resource specialists. Nemetz is Associate Professor and Chairman of the Policy Analysis Division in the Faculty of Commerce at the University of British Columbia and Editor of the *Journal of Business Administration*. No index.

See also: Book Numbers JEL 87-1022, 87-1084, 87-1104, 87-1106, 87-1108, 87-1135, 87-1158

500 Administration; Business Finance; Marketing; Accounting

ROBISON, LINDON J. AND BARRY, PETER J. *The competitive firm's response to risk*. New York: Macmil-

lan; London: Collier Macmillan, 1987. Pp. xii, 324. \$37.50. ISBN 0-02-948640-8. JEL 87-1121

This textbook and reference for advanced undergraduate and graduate students extends microeconomic theory to assess the effects of risk on the equilibrium conditions for a competitive firm. Part 1 is an introduction to decision making under risk and covers the nature of risk, ordering individuals' attitudes toward risk, and ordering risky choices. Part 2 deals with organizing firm-level research under risk and includes firm-level models and equilibrium analysis under risk. Part 3 analyzes firm response to risk, and covers optimal output under price uncertainty and risk-reducing inputs, optimal input use, hedging, diversification, share leasing, and the use of information as risk responses. Part 4 covers transformed distributions and response to risk, and includes indirect and direct outcome variables and insurance, managing financial structure, flexible durables, participation in public programs, and new technology as response to risk. Robison is with Michigan State University. Barry is with the University of Illinois, Urbana-Champaign. Author and subject indexes.

510 ADMINISTRATION

DOUGLAS, EVAN J. *Managerial economics: Analysis and strategy*. Third edition. Englewood Cliffs, N.J.: Prentice-Hall, [1979, 1983] 1987. Pp. xxiv, 648. ISBN 0-13-550630-0. JEL 87-1122

Managerial economics textbook designed for a one-term course at the undergraduate or MBA level. Changes to the current edition include a reorganization of chapters dealing with pricing analysis and decisions, and the inclusion of a chapter on product quality and competitive strategy. Additional new material incorporated throughout the text considers: daily interest discount factors; the principal-agent problem and the issue of incentive contracts; the learning curve in the context of changing input productivity as cumulative output grows; contestable markets and barriers to entry; and cost-plus-fee and incentive bidding. Six new appendices at the end of relevant chapters contain some of the more complicated microeconomic theory materials formerly in the basic text and discuss: indifference curve analysis, demand forecasting, isoquant-isocost analysis of production problems, linear programming, models of a firm's pricing decisions, and illegal pricing decisions under antitrust laws. Learning and teaching aids include: case study problems, recent examples, a study guide/workbook, and a computer courseware package and manual. Douglas is a member of the Department of Economics at Bentley College, Massachusetts. Author and subject indexes.

FOX, KARL A. AND MILES, DON G., eds. *Systems economics: Concepts, models, and multidisciplinary perspectives*. Ames: Iowa State University Press, 1987. Pp. xvii, 252. \$24.50. ISBN 0-8138-1738-2. JEL 87-1123

Nine papers discuss the applications of a systems approach to problems in economics and agricultural economics. Part 1 covers general issues and includes papers on: the economy as an ecosystem; general equilibrium and general systems theory; systems theory in mathematical economics; and the concept of variety in systems behavior. Part 2 is devoted to applications and covers: holistic modeling; systems management, repair, and improvement; behavior settings, time-allocation matrices, and social system accounts; models of social income; and community dynamics. Two appendices discuss holistic and problem shifting analyses and systems economics, and provide classic examples of systems thinking in several sciences. The contributors are Kenneth E. Boulding, Roy J. Gardner, Glenn L. Johnson, Michael S. Lawlor, James R. Prescott, Jati K. Sengupta, Paul van Moeseke, and the editors. Fox is Professor of Economics at Iowa State University. Miles is Lecturer in Agricultural Economics at the Muresk Institute of Agriculture, Western Australian Institute of Technology. Name and subject indexes.

GRAYSON, LESLIE E. *Who and how in planning for large companies: Generalizations from the experiences of oil companies*. New York: St. Martin's Press, 1987. Pp. viii, 241. \$37.50. ISBN 0-312-87005-1. JEL 87-1124

Describes and analyzes the planning processes of five major oil companies—Royal Dutch/Shell Group, Chevron, Conoco, Compagnie Française des Pétroles, and Sohio. Discusses long-range strategic planning and scenario planning. Examines oil company planners and the planning process. Provides a detailed analysis of planning in each of the five oil companies. Notes differences among the firms according to nationality, multi-national or national states, size, and type of ownership. Grayson is Professor of International and Business Economics at the Colgate-Darden Graduate School of Business Administration, University of Virginia. Index.

DE KOK, A. G. *Production-inventory control models: Approximations and algorithms*. CWI Tracts series, no. 30. Amsterdam: Centre for Mathematics and Computer Science, 1987. Pp. iii, 214. Dfl 33.00, paper. ISBN 90-6196-310-9. JEL 87-1125

Probabilistic analysis of several one-product production-inventory models which were designed to

model coordination of the production rate with inventory levels in order to cope with random fluctuations in demand. Focuses on models with a compound Poisson demand process and two possible production rates, and concentrates on service measures rather than on costs. Examines: the basic model with backordering of excess demand; the lost-sales model; the single product production-inventory model with mixed backlogging and partial lost sales; the single product production-inventory model in which excess demand is either backlogged or completely lost; approximations for the average holding and switching costs; a production-inventory model with positive setup time; and a dam problem with variable release rate. Index.

[MARSCHAK, JACOB.] *Decision and organization: A volume in honor of Jacob Marschak*. Second edition. Edited by C. B. McGuire and Roy Radner. Minneapolis: University of Minnesota Press, [1972] 1986. Pp. xxiv, 373. \$15.95, paper. ISBN 0-8166-1365-6. JEL 87-1126

Second edition of the essays in this *Festschrift* for Jacob Marschak includes an account of Marschak's career and work, as well as the addition of new references to many of the essays to indicate current literature on the topics. [See JEL no. 73-0192 for annotation of the first edition.] Includes a new biographical essay by Kenneth Arrow and an updated listing of Marschak's works. McGuire is Professor of Public Policy at the University of California, Berkeley. Radner is Research Professor of Economics at New York University and a member of the staff at AT&T Bell Laboratories. Name and subject indexes.

PEPPERS, LARRY C. AND BAILS, DALE G. *Managerial economics: Theory and applications for decision making*. Englewood Cliffs, N.J.: Prentice-Hall, 1987. Pp. xxi, 679. ISBN 0-13-550055-9. JEL 87-1127

Textbook in managerial economics covering economic theory and its application to business operations. Topics include: the economic roots of business operations; value creation by the firm; optimization techniques; demand analysis and consumer behavior; elasticity of demand; regression analysis and empirical estimation; demand analysis in marketing and sales; the production process; cost theory and measurement; estimation of cost and production functions; risk and uncertainty; capital budgeting; theory of the firm and market structure; models of imperfect competition; profits and profitability analysis; pricing decisions; and wealth creation and distribution in government and business. Each chapter contains a summary and questions. Peppers is at Washington and Lee Uni-

versity. Bails is at Memphis State University. Index.

- RAMSEY, JACKSON E. *Research and development: Project selection criteria*. Revised edition. Research for Business Decisions series, no. 80. Ann Arbor, Mich.: University Microfilms, UMI Research Press, [1978] 1986. Pp. 215. ISBN 0-8357-1708-9. JEL 87-1128

Explores the research and development to operations planning processes. Reviews and analyzes problems in present management approaches, intralevel objective and strategy interaction, and new product projects. Introduces and discusses the process of choice and interrelation among normative frameworks. Outlines the normative frameworks for intralevel objective and strategy interaction as well as for applied new product development project selection. Discusses the uses of normative frameworks to overcome identified failure causes. Bibliography; index.

- SAWARAGI, Y.; INOUE, K. AND NAKAYAMA, H., eds. *Toward interactive and intelligent decision support systems*. Volume 1. *Proceedings of the Seventh International Conference on Multiple Criteria Decision Making, held at Kyoto, Japan, August 18-22, 1986*. Lecture Notes in Economics and Mathematical Systems series, no. 285. New York; Berlin; London and Tokyo: Springer, 1987. Pp. xii, 445. \$45.60, paper. ISBN 0-387-17718-3. JEL 87-1129

Forty-five papers presented at an international conference on multiple criteria decision making. Part 1 focuses on interactive decision support systems. Part 2 deals with interactive multiobjective programming methods. Part 3 consists of applications in the field of planning, design, and production. Part 4 deals with the theory of vector optimization. Contributors include several economists. Sawaragi is associated with the Japan Institute of Systems Research, Kyoto. Inoue is Professor, Department of Aeronautical Engineering, Kyoto University. Nakayama is Professor, Department of Applied Mathematics, Konan University, Kobe, Japan. No index.

- SAWARAGI, Y.; INOUE, K. AND NAKAYAMA, H., eds. *Toward interactive and intelligent decision support systems*. Volume 2. *Proceedings of the Seventh International Conference on Multiple Criteria Decision Making, held at Kyoto, Japan, August 18-22, 1986*. Lecture Notes in Economics and Mathematical Systems series, no. 286. New York; Berlin; London and Tokyo: Springer, 1987. Pp. xii, 450. \$45.60, paper. ISBN 0-387-17719-1. JEL 87-1130

Forty-five papers presented at an international conference on multiple criteria decision making. Part 1 focuses on intelligent decision support systems. Part 2 deals with utility and risk analysis whereas part 3 examines value analysis and intensity of preference. Part 4 is devoted to hierarchy analysis and weighting methods. Part 5 considers incomplete information, and part 6 analyzes group decisions. Contributors include several economists. Sawaragi is Professor at the Japan Institute of Systems Research, Kyoto. Inoue is a member of the Department of Aeronautical Engineering, Kyoto University. Nakayama is a member of the Department of Applied Mathematics, Konan University, Kobe, Japan. No index.

See also: Book Numbers JEL 87-0065, 87-1052, 87-1124, 87-1168

520 BUSINESS FINANCE AND INVESTMENT

- CLARK, RODNEY. *Venture capital in Britain, America and Japan*. New York: St. Martin's Press, 1987. Pp. 110. \$35.00. ISBN 0-312-00505-9. JEL 87-1131

Describes American venture capital and explains how it has been adopted in Japan and Britain. Notes that a distinctive feature of American venture activity is that it represents a successful attempt to institutionalize entrepreneurship, especially entrepreneurship associated with technical innovation. Describes conditions necessary for successful venture capitalism. Attributes changes in tax laws and the administration of pension funds with generating a large flow of venture capital funds in the United States during the late 1970s, and finds that other countries were attracted by the U.S. success and were also disenchanted with government intervention. Examines the growth of venture capital in Japan and the United Kingdom, focusing on the obstacles to the adoption of a U.S.-style system. Concludes that the American system of venture capital can be transplanted successfully and that venture capital is becoming more institutionalized in the United States and less institutionalized in Japan and the United Kingdom. Clark is with the Technical Change Centre. Index.

- FOX, MERRITT B. *Finance and industrial performance in a dynamic economy: Theory, practice, and policy*. Columbia Studies in Business, Government, and Society series. New York: Columbia University Press, 1987. Pp. x, 455. \$45.00. ISBN 0-231-06283-6. JEL 87-1132

Analysis of the institutions associated with the allocation and control of capital and their influence on industrial performance. Reviews the nature of the information available to decision makers in-

volved in the finance process and outlines an information based theory of the role of finance in industrial performance. Presents a study of the financing of the semiconductor industry, assessing the influence of finance on dynamic efficiency and competition in the industry, and examines the applications of this study to the formulation and implementation of policy. Fox is Professor of Law and Ira C. Bateman Faculty Fellow at the Indiana University School of Law, Bloomington. Author and subject indexes.

SCHALL, LAWRENCE D.; HALEY, CHARLES W. AND SCHACHTER, BARRY. *Introduction to financial management*. Second Canadian edition. Toronto; New York; Auckland and London: McGraw-Hill, Ryerson, [1981] 1987. Pp. xvii, 726. \$42.95. ISBN 0-07-549156-7. JEL 87-1133

Revised updated edition of an introductory finance textbook designed for courses ranging from an undergraduate one-semester course to an introductory MBA course. Assumes minimal background in mathematics and economics but at least one quarter of accounting. In addition to general updating and simplification, major changes to this edition include: the discussion of recent federal law changes; a complete revision of the material on security prices, and risk and return; revision of the material on capital budgeting and the discussion of formal methods of adjusting for risk; and an expanded treatment of cash-management methods and letters of credit. A study guide and instructor's manual are also available. Schall is Professor of Finance and Business Economics, University of Washington. Haley is Rainier National Bank Professor of Banking and Finance, University of Washington. Schachter is Assistant Professor, Faculty of Business Administration and Department of Economics, Simon Fraser University. Glossary; index.

See also: Book Numbers JEL 87-1169, 87-1220

540 ACCOUNTING

GEORGES, WALTER AND MCGEE, ROBERT W. *Analytical contribution accounting: The interface of cost accounting and pricing policy*. New York and London: Greenwood Press, Quorum Books, 1987. Pp. xii, 254. \$39.95. ISBN 0-89930-209-2. JEL 87-1134

Analysis of the relationship between cost accounting and the pricing policy of enterprises. Part 1 considers some general aspects of pricing policy including its objectives, determinants, behavior, and strategy. Part 2 examines cost as a determinant of price and discusses: the relationship between cost accounting and pricing policy; cost concepts

relevant to pricing policy; and the role cost of accounting information in determining price floors, price differentiation, price changing, and the pricing of individualized products. Part 3 reviews cost-oriented methods of price determination, including decisions based on full and partial costing. Part 4 presents the methodology, fundamental principles, and motives for the choice of analytical contribution accounting and discusses pricing policy-oriented calculation models. Georges is Lecturer in Accounting at the Institute for Business Management, Ghent. McGee is Associate Professor of Accounting at Seton Hall University, New Jersey. Bibliography; index.

HOLZER, H. PETER AND SCHOENFELD, HANNS-MARTIN W., eds. *Managerial accounting and analysis in multinational enterprises*. New York and Berlin: de Gruyter, 1986. Pp. xii, 270. ISBN 0-89925-087-4. JEL 87-1135

Proceedings of a colloquium on managerial accounting and analysis in multinational enterprises sponsored by the Center for International Education and Research in Accounting of the University of Illinois at Urbana-Champaign. Eight papers outline the accounting and performance evaluation techniques employed for the evaluation of international subsidiaries by: IBM; the Monsanto company; GoldStar Electronics; the FMC Corporation; Borg-Warner; Nixdorf and Philips; Alldelphi Germany; and Nixdorf Computer AG Paderborn. Four papers examine the view of independent accountants on: the impacts of performance evaluation techniques on managerial incentives and strategic planning; problems of operating in an international environment; evaluation in the case of acquisition or disposal and annual audits; and the present state of performance evaluation in multinational companies. The contributors are mainly accountants. Holzer is the Deloitte Haskins and Sills Professor of Accountancy and Schoenfeld is the H. T. Scovill Professor of Accountancy and Business Administration, both at the University of Illinois at Urbana-Champaign. Bibliography; index.

600 Industrial Organization; Technological Change; Industry Studies

610 INDUSTRIAL ORGANIZATION AND PUBLIC POLICY

BAILEY, ELIZABETH E., ed. *Public regulation: New perspectives on institutions and policies*. MIT Press Series on the Regulation of Economic Activity, no. 14. Cambridge, Mass. and London: MIT Press, 1987. Pp. xiv, 404. \$42.50. ISBN 0-262-02258-3. JEL 87-1136

Eleven essays, presented at a conference on public regulation sponsored by Carnegie-Mellon University in 1985, emphasize an interdisciplinary approach to the nature of research on issues of public regulation. Contributions discuss the design and formulation of regulatory policy and the assessment of regulatory performance. Specific topics include: information and regulation; a judicial review of questions of law and policy; modern political economy and the study of regulation; the regulatory surge of the 1970s in historical perspective; a general equilibrium analysis of natural gas price regulation; risk analysis and relevance of uncertainty in nuclear safety decisions; experimental evaluation of the contestable markets hypothesis; agricultural marketing boards and induced voting behavior; an assessment of the efficiency effects of U.S. airline deregulation; occupational disease remedies and the asbestos experience; and a laboratory analysis of industrywide regulation and the formation of reputations. Bailey is Dean of the Graduate School of Industrial Administration, Carnegie-Mellon University. Index.

BARNEY, JAY B. AND OUCHI, WILLIAM G., eds. *Organizational economics*. Jossey-Bass Management Series. Jossey-Bass Social and Behavioral Science Series. San Francisco and London: Jossey-Bass, 1986. Pp. xix, 495. ISBN 1-55542-015-X.

JEL 87-1137

Fifteen previously published essays, with an introduction by the editors, discuss organizations and organizational phenomena using concepts from organizational theory and behavior and microeconomics. Essays are presented in six chapters, each with an introduction, covering: basic concepts underlying the economics of organization such as information, opportunism, economic exchange, and the competitive contracting process; theories of market failures, including transactions-cost economics; the impact of markets on firms; agency theory; managerial theory of the firm; and the economics of business strategy. Barney is Assistant Professor of Management at Texas A&M University; Ouchi is Professor of Management in the Graduate School of Management at the University of California, Los Angeles. Name and subject indexes.

CAVES, RICHARD. *American industry: Structure, conduct, performance*. Sixth edition. Foundations of Modern Economics Series. Englewood Cliffs, N.J.: Prentice-Hall, [1964 . . . 1982] 1987. Pp. x, 124. Paper. ISBN 0-13-027685-0. JEL 87-1138

Sixth edition of this introductory level textbook on industrial organization. [See JEL no. 82-1195 for annotation of fifth edition.] Examines: the busi-

ness sector and its organization; elements of market structure; the large corporation; market conduct; market performance; antitrust laws; and public policy. Changes to the current edition place a substantial emphasis on "committed competition" and reflect the weakening of antitrust policy that has occurred over the past decade. Caves is Professor of Economics at Harvard University. Index.

COHEN, STEPHEN S. AND ZYSMAN, JOHN. *Manufacturing matters: The myth of the post-industrial economy*. Council on Foreign Relations Book series. New York: Basic Books, 1987. Pp. xiv, 297. \$19.95. ISBN 0-465-04384-4. JEL 87-1139

Examines the role of manufacturing in the current economy. Part one illustrates why manufacturing matters, and examines: linkages, wealth, and power; services and the American trade balance; services and development; and the eroding competitiveness of American industry. Part 2 discusses the management of the transition, focusing on: market competition, technological development, and trade; production skills; manufacturing flexibility; the manufacturing and telecommunications revolutions; and choices America faces. Part 3 focuses on creating advantage, and discusses policy and competitiveness in a changing world and trade policy in an evolving world economy. Concludes that the United States is not experiencing a transition from industry to service, but rather from one kind of industrial society to another, and that the choices we make as a nation will determine whether the United States continues its role of industrial leadership. Cohen and Zysman are Professors at the University of California, Berkeley. Index.

CREW, MICHAEL A., ed. *Regulating utilities in an era of deregulation*. New York: St. Martin's Press, 1987. Pp. xii, 201. \$35.00. ISBN 0-312-00527-X.

JEL 87-1140

Eleven essays, resulting from two seminars held at Rutgers University in November 1985 and May 1986, examine the regulation of traditional utilities in an era of deregulation. Topics include: productivity incentives and rate-of-return regulation; regulatory policy under uncertainty; governance costs of regulation for water supply; Ramsey pricing in telecommunications markets with free entry; and analysis of pricing and production efficiency of electric utilities by mode of ownership; residential electricity demand modeling with secret data; and estimation and linking of economic and financial costs in telecommunications. Contributors are mainly economists. Crew is Professor of Economics at the Graduate School of Management, Rutgers University. Index.

- GOENLERT, ROBERT AND GUNDERSON, NELS. *Government regulation of business: An information sourcebook*. Oryx Sourcebook Series in Business and Management. Phoenix, Ariz.: Oryx Press, 1987. Pp. ix, 425. \$55.00. ISBN 0-89774-261-3.

JEL 87-1141

Bibliography designed to assist librarians, researchers, government personnel, and business people interested in government regulation of business. Though most of the focus is on regulation at the national level, some materials are included dealing with regional, state, and local levels. Citations are drawn from a variety of fields, including business, economics, political science, law, history, public administration, and general social sciences. Includes books, articles, dissertations, essays, research reports, and selected documents, which are analytical and scholarly in nature. Time period is primarily 1945-85 with some earlier citations. Divided into six sections: core library collection, economics of regulation, politics of regulation, regulatory activities, major regulatory agencies, and reference works. Author, title, and subject indexes.

- JANSSON, J. O. AND SHNEERSON, D. *Liner shipping economics*. London and New York: Chapman and Hall, 1987. Pp. x, 299. \$65.00. ISBN 0-412-26310-6.

JEL 87-1142

Presents a comprehensive description of the liner shipping industry and develops analytical methods for service optimization. The general principles derived are illustrated by case studies and practical examples to convey a sense of the reality of seaborne freight transport and to demonstrate the theoretical underpinnings of empirical studies of liner shipping operations. Discusses characteristics of the demand and supply of liner shipping, the conference system of market organization, the level and structure of freight rates, and the art of charging what the traffic can bear. Examines the optimization of liner service, focusing on: ship size and shipping costs, multi-port calling versus trans-shipment, shippers' cost of sailings infrequency and transit time, port costs and charges and the problem of shipping and port suboptimizations, and a cost minimization model of liner trade. Provides an economic evaluation of the conference system and concludes that price competition in liner shipping should be encouraged. Jansson is with the Swedish Road and Traffic Institute, Linköping. Shneerson is with the Department of Economics at the University of Haifa. Author and subject indexes.

- DE JONG, H. W. AND SHEPHERD, W. G., eds. *Mainstreams in industrial organization*. Book I. *Theory*

and international aspects. Studies in Industrial Organization series, vol. 6. Hingham, Mass., Dordrecht and Lancaster: Kluwer Academic, 1986. Pp. x, 210. ISBN 90-247-3461-4.

JEL 87-1143

The first of two books of a volume containing the essays and selected discussions presented at the conference on Mainstreams in Industrial Organization, held at the University of Amsterdam, in August 1985. This book contains eight essays, which examine the theory and international aspects of mainstream industrial organization. Frederic Scherer discusses the current state of knowledge in industrial organization. William Shepherd reviews the core concepts of industrial economics and Henk de Jong examines European industrial organization. Chris Green discusses the challenges and tasks of mainstream industrial economics, and Ann Hendriks reviews the current themes in the discipline. Gunnar Eliasson examines international competition, productivity change, and the organization of production. Takgo Nakao discusses industrial organization in an international framework and Richard Caves presents evidence from the United States on exporting behavior and market structure. De Jong is Professor of Economics at the University of Amsterdam. Shepherd is Professor of Economics at the University of Michigan. No index.

- DE JONG, H. W. AND SHEPHERD, W. G., eds. *Mainstreams in industrial organization*. Book II. *Policies: Antitrust, deregulation and industrial*. Studies in Industrial Organization series, vol. 6. Hingham, Mass., Dordrecht and Lancaster: Kluwer Academic, 1986. Pp. x, 215 - 465. ISBN 90-247-3462-2.

JEL 87-1144

The second of two books of a volume containing essays and selected discussions presented at the Conference on Mainstreams in Industrial Organization, held at the University of Amsterdam in August 1985. Contains nine essays on antitrust policy, deregulation, and industrial policy. Essays examine: U.S. antitrust policy at the crossroads; the treatment of dominant firms in U.K. competition legislation; the treatment of dominance in German antitrust policy; competition policies and measures of dominant power; lessons of economics for antitrust; the effects of U.S. transport deregulation; deregulation of European air transport; industrial policy in theory and reality; public support of innovative activity; and industrial policy and innovation in Europe. Contributors are mainly economists. De Jong is Professor of Economics at the University of Amsterdam. Shepherd is Professor of Economics at the University of Michigan. No index.

- MONOPOLKOMMISSION. *German Monopolies Commission 1973-1983: Summaries of the first five Biennial*

Reports. Monopolkommission Auflage, no. 1. Baden-Baden: Nomos, 1987. Pp. 175. Paper. ISBN 3-7890-1348-X. JEL 87-1145

English summaries of the first five Biennial Reports (1973-75, 1976-77, 1978-79, 1980-81, and 1982-83) of the Monopolies Commission, assessing the current level of business concentration and its foreseeable development in light of economic policy. Each report contains common items, such as the extent of concentration and trends in manufacturing industries, large companies, and the merger control. No index.

MOSLER, K. C. *Continuous location of transportation networks.* Texts and Monographs in Economics and Mathematical Systems series. New York; Berlin; London and Tokyo: Springer, 1987. Pp. x, 158. \$32.00. ISBN 0-387-17297-1. JEL 87-1146

Revised version of an earlier monograph titled *Optimale Transportnetze; Zur Bestimmung ihres Kostengünstigsten Standorts bei gegebener Nachfrage* (1976). Concerned with the problem of constructing an optimal geometric location of transport lines and junctions in continuous two-space as opposed to the discrete approach. Presents a general framework for the continuous location of networks. Shows that many practical features can be incorporated in the framework and solves the network optimization problem in certain special cases. Introduces optimal transportation networks, costs on the network, and urban transportation planning. Examines transport lines and isovectors, cost surfaces, laws of refraction, a circular area with radially symmetric transfer cost, and anisotropic transport. Exhibits the continuous network location problem in detail and considers isotropic and anisotropic transport to a center. Concludes with an examination of regular networks covering the plane. Mosler is at the Institut für Statistik und Quantitative Ökonomik, Universität der Bundeswehr Hamburg. Bibliography; author and subject indexes.

MUELLER, WILLARD F.; HELMBERGER, PETER G. AND PATERSON, THOMAS W. *The Sunkist case: A study in legal-economic analysis.* Lexington, Mass. and Toronto: Heath, Lexington, 1987. Pp. xiv, 271. \$34.95. ISBN 0-669-15189-0. JEL 87-1147

A legal-economic analysis of the application of the antitrust laws to agricultural cooperatives that focuses on the antitrust case brought by the Federal Trade Commission charging Sunkist Growers, Inc. with monopolizing the California-Arizona citrus industry. Describes the main issues in the FTC case and identifies the legal rules that are to be used in analyzing these issues. Discusses the analytical framework used to develop hypotheses concerning violations, and proceeds to test these hy-

potheses by examining the structure, conduct, and performance of the industry, focusing on the role of Sunkist. Summarizes the significance of the findings for determining whether Sunkist violated the antitrust laws and whether the relief ordered by the FTC was appropriate. Mueller is William F. Vilas Research Professor of Agricultural Economics at the University of Wisconsin, Madison. Helmburger is Professor of Agricultural Economics at the University of Wisconsin, Madison. Paterson is an attorney with Susman, Godfrey and McGowan in Houston. References; index.

PARZYCH, KENNETH M. *A primer to antitrust law and regulatory policy.* Lanham, Md. and London: University Press of America, 1987. Pp. x, 112. \$19.50, cloth; \$7.75, paper. ISBN 0-8191-5786-4, pbk. JEL 87-1148

Provides a basic and concise introduction to U.S. antitrust policy. Emphasis is placed on a selected number of judicial proceedings. Begins with an introduction and analysis of market structures, covering the evolution of the market system, classical and oligopoly markets, the doctrine of conscious parallelism, and the wastes of monopolistic competition. Reviews the causes and effects of economic concentration. Presents the highlights of the basic antitrust laws and reviews the leading cases that have interpreted them. Examines statutes and policies that impede competition. Discusses mergers and acquisitions, and the antitrust laws and international commerce. Concludes with an evaluation of regulatory policy, including its weaknesses and proposed reforms. Parzych is Professor of Economics at Eastern Connecticut State University. Index.

REICH, ROBERT B. AND DONAHUE, JOHN D. *New deals: The Chrysler revival and the American system.* Paperback reprint. New York; Middlesex, England; Victoria, Australia and Markham, Ontario: Penguin Books, [1985] 1986. Pp. 359. Paper. ISBN 0-14-006983-7. JEL 87-1149

Describes the precedents and the content that shaped the Chrysler rescue, summarizing the Chrysler story from the 1920s to the troubles of the 1970s. Explores what happened after the Loan Guarantee Act was passed and appraises the role of managers, workers, lenders, dealers, suppliers, public officials, lawyers, and investment bankers in the Chrysler struggle. Recounts the company's return to profitability and the politics of recovery. Considers the implications for the role of the public in saving an element of the private sector. Reich is with the John F. Kennedy School of Government, Harvard University. Donahue is a doctoral fellow at the Center for Business and Government, Harvard University. Index.

ROBYN, DOROTHY. *Braking the special interests: Trucking deregulation and the politics of policy reform*. Chicago and London: University of Chicago Press, 1987. Pp. xii, 295. \$24.95. ISBN 0-226-72328-3. JEL 87-1150

Presents observations on the trucking contest that existed between December 1979, when President Carter placed motor carrier deregulation on his reform short list, and July 1980, when the Motor Carrier Act became law. In addition to formal hearings and floor votes, empirical data were drawn from informal conversations and meetings of the ad hoc coalition supporting reform. Identifies four elements important in deregulatory success: strategic use of economic evidence and policy analysis to demonstrate the merits of deregulation; organization of a diverse coalition of firms and interest groups lobbying for reform; use of transition strategy to soften opposition to reform; and strategic bargaining by the president with Congress. Draws on political and economic theory and offers insights relevant to battles in other areas such as agriculture, tax policies, and trade. Robyn is Assistant Professor of Public Policy, Kennedy School of Government, Harvard University. Index.

SAMUELS, WARREN J. AND MILLER, ARTHUR S., eds. *Corporations and society: Power and responsibility*. Contributions in American Studies series, no. 88. New York and London: Greenwood Press, 1987. Pp. xv, 328. \$45.00. ISBN 0-313-25072-3. JEL 87-1151

Twelve contributions review and assess the implications of the 1886 Supreme Court ruling in the *Santa Clara* case, which held that a corporation is a person within the meaning of the Constitution, thereby receiving constitutional protection. Part 1 focuses on the doctrinal origins of the personhood conception, and discusses: the development of corporate theory; the Sherman Antitrust Act and the corporate reconstruction of American capitalism, 1890-1914; and a political analysis of neoclassical institutional perspectives on the modern corporation. Part 2 examines the role of legal language as social control and economic planning, and reviews: the idea of a corporation as a person and the normative significance of judicial language; the jurisprudence of corporate personhood and the misuse of a legal concept; and the paradox of paternalism and laissez-faire constitutionalism. Part 3 discusses double standards in antitrust law policy, and bigness and social efficiency in the U.S. auto industry. Part 4 examines the corporation as private government, focusing on: the corporations and the two constitutions; competitiveness diversity in a market-concentrated economy; moral and criminal responsibility and corporate persons; and profit

sharing and employee stock ownership plans. Contributors are mainly economists and lawyers. Samuels is Professor of Economics at Michigan State University. Miller is Professor Emeritus of Constitutional Law at George Washington University. Selected bibliography; index.

TISMER, JOHANNES F.; AMBLER, JOHN AND SYMONS, LESLIE, eds. *Transport and economic development—Soviet Union and Eastern Europe*. Osteuropa-Institut an der Freien Universität Berlin, Wirtschaftswissenschaftliche Veröffentlichungen, band 42. Berlin: Duncker and Humblot, 1987. Pp. xxiv, 474. DM 48.00, paper. ISBN 3-428-06199-3. JEL 87-1152

Sixteen papers resulting from an international conference on transport as a problem in the economic development of the Soviet Union and the communist countries of Eastern Europe, held in Berlin in May 1985. The papers concentrate on analyzing the relations between the transport sector as a system, its branches or its service areas, and the economy at sectoral and regional levels. Eight papers are specific to the Soviet Union; their topics include: the effects of sectoral transport demands on the transport system; factors controlling recent performance on railways; the current campaign to increase freight train weight; the extent to which inland waterways transport can provide relief for the railways; maritime transport in an overcrowded market; problems and possibilities in connection with shipping in the Central Arctic Basin; consumption of automotive oil products in road transport; and transport and the pattern of settlement in Soviet Caucasasia. The other papers consider: current developments in transport and traffic between the U.S.S.R. and Eastern Europe; the effect of transport bottlenecks on production; transport and the pattern of settlement in Poland; investment policy in the Polish transport sector; Albania's transport relations with its neighbors; the impact of the Danube-Black Sea Canal; and the rise and fall of Soviet influence on the Chinese aircraft industry and air transport. Index.

TYE, WILLIAM B. *Encouraging cooperation among competitors: The case of motor carrier deregulation and collective ratemaking*. New York and London: Greenwood Press, Quorum Books, 1987. Pp. xix, 202. ISBN 0-89930-246-7. JEL 87-1153

Examines the effects of the Motor Carrier Act of 1980 on competition in the trucking industry. Presents an overview of the issues raised by collective ratemaking in the motor carrier industry. Discusses the dilemma of encouraging cooperation among horizontally and vertically related rivals and examines cooperation among rivals. Concludes that

there is no evidence supporting the contention that rate bureaus act as government-enforced cartels. Further, a system of competition, collective rate making, and residual regulation offers a sound basis for resolving the tension between coordination and competition. Tye is a member of Putnam, Hayes, and Bartlett, Inc., an economic and management consulting firm specializing in antitrust law and regulation. Bibliography; index.

WILLS, ROBERT L.; CASWELL, JULIE A. AND CULBERTSON, JOHN D., eds. *Issues after a century of federal competition policy*. Lexington, Mass. and Toronto: Heath, Lexington Books, 1987. Pp. vii, 387. ISBN 0-669-13320-5. JEL 87-1154

Twenty-one essays, one previously published, plus additional statements and comments dedicated to Willard F. Mueller on his retirement from full-time professorship in the Department of Agricultural Economics at the University of Wisconsin, Madison. Part 1 is an introduction and tribute, and contains personal statements and Mueller's address to the American Agricultural Economics Association dealing with market power and its control in the food system. Part 2 deals with objectives and trends in competition policy, and discusses: the theory and practice of antitrust; law and economics; the legal and economic analysis of distribution restraints; and antitrust and the Schumpeterian model with application to the food industry. Part 3 examines competition in a world setting, focusing on: a world perspective of the evolution of industrial policies; global competition and the alleged redundancy of antitrust; the limited international reach of U.S. antitrust policy; and agricultural cooperatives under EEC antitrust regulations. Part 4 is concerned with market entry and examines: entry barriers in the food industry; entry patterns and strategic interaction in food retailing; and advertising and entry. Part 5 deals with mergers and discusses: aggregate concentration; evidence for and against changes in public policy toward mergers; operating performance of acquired firms in banking; and the effects of mergers and entry on concentration change in grocery retailing markets. The last part covers market structure and performance, focusing on: concentration and price; the effect of market structure on the cost of borrowing; the inflationary contribution of market structure in food and tobacco manufacturing, and advertising-induced price differentials and profit differences. Contributors are mainly economists. Wills is Senior Research Analyst in the Department of Agricultural Economics at the University of Wisconsin, Madison. Caswell is Assistant Professor of Agricultural and Resource Economics at the University of Massachusetts. Culbertson is a senior

analyst with National Economic Research Associates, Washington, D.C. Index.

See also: Book Numbers JEL 87-1061, 87-1070, 87-1084, 87-1119, 87-1126, 87-1136, 87-1141, 87-1142, 87-1144, 87-1148, 87-1153, 87-1159, 87-1162, 87-1163, 87-1198

620 ECONOMICS OF TECHNOLOGICAL CHANGE

BERNSTEIN, JEFFREY I. *Research and development, tax incentives, and the structure of production and financing*. Ontario Economic Council Research Studies series. Toronto; Buffalo and London: University of Toronto Press, 1986. Pp. 107. \$9.95, paper. ISBN 0-8020-6629-1. JEL 87-1155

Estimates the effectiveness of the various R&D investment tax incentives and investigates the manner in which firms finance R&D projects relative to the method of financing investment in plant and equipment. Uses a dynamic econometric model in which demand for R&D capital is determined simultaneously with the demands for labor and plant and equipment capital to identify the effectiveness of tax incentives and the influence of interest rates on R&D expenditures. Provides a survey of literature on R&D investment and reviews the relevant aspects of tax policies and R&D outlays. Calculates the effect that alternative tax incentives exert on the unit cost of R&D expenditures, using data for Canadian firms. Analyzes the factor demands and tax incentive effects and calculates the cost to the government in terms of lost tax revenue of each policy alternative. Concludes that R&D capital demand depends on factor prices and output changes, that tax incentives do exert an effect, and that changes in interest rates do affect the structure of production. Bernstein is a member of the Department of Economics at Carleton University, Ontario. No index.

COOMBS, ROD; SAVIOTTI, PAOLO AND WALSH, VIVIAN. *Economics and technological change*. Totowa, N.J.: Littlefield, Adams; Rowman and Littlefield, 1987. Pp. xv, 296. \$35.95, cloth; \$12.95, paper. ISBN 0-8476-7546-7, pbk. JEL 87-1156

Examination of the economics of innovation. Topics include: the firm, production, and technical change; research and development in the firm; patterns of innovation; technological change, output; employment, and trade; government intervention in technical change; and non-government influences on technical change. Coombs and Walsh are lecturers at the University of Manchester Institute of Science and Technology. Saviotti is Lecturer in Science and Technology Policy at the University of Manchester. Bibliography; index.

FLAMM, KENNETH. *Targeting the computer: Government support and international competition*. Washington, D.C.: Brookings Institution, 1987. Pp. xiii, 266. \$31.95, cloth; \$11.95, paper. ISBN 0-8157-2852-2.

JEL 87-1157

Analyzes the origins and evolution of the role of government in the development of computer technology. Examines the economic impact of computer technology and traces the history of federal support for computer research. Reviews government policies affecting the development of computer technology in the United States, Western Europe, and Japan, and evaluates their aggregate impact. Assesses the role governments have played in the development of advanced computer technology and identifies those areas of potential future concern. Flamm is a research associate in the Brookings Foreign Policy Studies program. Index.

SAFARIAN, A. E. AND BERTIN, GILLES Y., eds. *Multinationals, governments and international technology transfer*. New York: St. Martin's Press, 1987. Pp. 223. \$37.50. ISBN 0-312-00730-2.

JEL 87-1158

Twelve papers originally presented at a conference on International Technical Transfers, Multinational Enterprises and National Policies in Advanced Countries at the University of Paris, Dauphine, in September 1985, sponsored by l'Association de Recherche Economique en Propriété Intellectuelle et Transferts Techniques and the Canadian Economics Association. The editor summarizes the contributions and highlights some of the implications for national policies on technology transfer. Papers discuss: an integrated approach to multinational enterprises, international investments, and technology transfers; trends in technological competitiveness within the OECD; a Canadian case study of international knowledge transfers and competitiveness; contractual agreements and international technology transfers; transfer partners and policies; technology development; timing, mode, and terms of technology transfer; and Canadian direct foreign investment. Also includes industry studies dealing with: pharmaceutical products in Canada; Franco-Japanese international investment, protection, and technical transfer; technology transfer in the French automotive equipment industry; and the transfer of Japanese automobile technology to North America. Safarian is Professor of Economics at the University of Toronto. Bertin is Research Director of AREPIT, Paris. Bibliography; author and subject indexes.

SCHMANDT, JURGEN AND WILSON, ROBERT, eds. *Promoting high-technology industry: Initiatives and*

policies for state governments. Boulder, Colo. and London: Westview Press in cooperation with the Houston Area Research Center, 1987. Pp. 283. \$35.00, paper. ISBN 0-8133-7427-8.

JEL 87-1159

Results of a study sponsored by the Lyndon B. Johnson School of Public Affairs, University of Texas, which examines the attempts of California, Florida, Massachusetts, Minnesota, New York, North Carolina, Pennsylvania, and Texas to foster economic development through science and advanced technology industries. Identifies and analyzes the actors in the policy development process, their motivations, the policy directions chosen, and the science and technology programs adopted in each of the eight states. Presents lessons drawn from the comparison of the eight states examined and considers future policy developments. Schmandt is Director of the Woodlands Center for Growth Studies, Houston Area Research Center, and a Professor of Public Affairs at the University of Texas. Wilson is Associate Professor at the Lyndon B. Johnson School of Public Affairs, University of Texas. Index.

STANBACK, THOMAS M., JR. *Computerization and the transformation of employment: Government, hospitals, and universities*. Boulder, Colo. and London: Westview Press, 1987. Pp. xv, 151. \$28.50. ISBN 0-8133-7320-4.

JEL 87-1160

Examines the current status and future prospects for computerization in the nonprofit sector—municipal governments, hospitals, and universities—focusing on its impact on the restructuring of work. Presents an overview of computer usage and analyzes computerization in New York City government, in hospitals, and in universities and colleges. Concludes that the major nonprofit organizations face opportunities for cost control and revitalization, and that the principal policy changes required by computerization involve major restructuring of educational and training institutions. Stanback is Professor Emeritus of Economics at New York University and Senior Research Scholar at Conservation of Human Resources, Columbia University. Index.

SWEENEY, G. P. *Innovation, entrepreneurs and regional development*. New York: St. Martin's Press, 1987. Pp. xvi, 271. \$35.00. ISBN 0-312-00489-3.

JEL 87-1161

Focuses on the major determinants of regional economic growth and prosperity from the perspective of entrepreneurial vitality, the innovative potential of the region, and the quality of information flow among firms. Takes into account the interdependence of private and public action and analyzes

the role of small firms and their interactions with the larger ones. Emphasizes that the role of the customer is critical for entrepreneurial innovation, arguing that firms will not compete internationally if their major customers are not technically progressive. Considers the importance of the social environment, including attitudes conducive to developing an information network and stimulating mutual creativity. Describes the necessary conditions for an information-rich climate, emphasizing education and training, information flows, and technical culture. Presents empirical data on small firms in European less-favored regions, finding confirmation of the role of a progressive customer in providing entrepreneurial potential with innovative opportunity. Concludes that it is local regions and not nations that are the environments in which entrepreneurs exist and establish new firms and that each action should consider the total environment, with innovations being multi-functional. Adds that large, centralized firms seem to have a limited life as innovative units and that the optimum approach is to focus on the small firm sector. Sweeney, formerly with the Institute for Industrial Research and Standards in Ireland, has his own consulting firm. Index.

See also: Book Numbers JEL 87-1008, 87-1073, 87-1128, 87-1167, 87-1182, 87-1225, 87-1236

630 INDUSTRY STUDIES

ANDERSON, DAVID L. *An analysis of Japanese coking coal procurement policies: The Canadian and Australian experience.* Kingston, Ontario: Queen's University Centre for Resource Studies, 1987. Pp. xvii, 222. Paper. ISBN 0-88757-063-6.

JEL 87-1162

Assesses the impact of the coordinated coking coal procurement system of the Japanese steel mills on suppliers in Australia and Canada and evaluates the existing and contemplated policy responses by these governments. Covers events from the late 1940s to June 1986. Explores the validity of the allegation that the Japanese mills act as oligopsonists in the coking coal market. Presents a broad overview of the coking coal industry, emphasizing the demand side and technological change. Describes the Japanese procurement system, followed by an analysis of the supply side, particularly from the perspective of cartelization theory. Reviews the Australian experience and the policy debate in focusing on attempts to counteract market imperfections. Concludes that radical changes are unlikely to occur on the supply side and that more attention must be given to the demand side by

the exporting nations. Anderson is Executive Director of the Centre for Resource Studies and Adjunct Professor of Public Administration, Queen's University. No index.

BROCK, WILLIAM A. AND EVANS, DAVID, S. *The economics of small businesses: Their role and regulation in the U.S. economy.* With contributions by BRUCE D. PHILLIPS. CERA Research Study series. New York and London: Holmes and Meier, 1986. Pp. xi, 215. \$54.50. ISBN 0-8419-0848-6.

JEL 87-1163

Examines the role of small business in the economy and develops a theoretical framework for examining their formation, growth, and dissolution. Summarizes theories and facts concerning small business. Examines how the importance of small business ventures has changed in the last twenty-five years. Discusses why policy makers and economists are concerned about small businesses and examines how these firms differ from the larger ones. Presents a framework for analyzing the impact of government regulation and taxation. Discusses the practice of tiering regulations and examines the circumstances for optimal tiering schemes. Examines the differential impact of regulations across business sizes and includes empirical results of studies on business formation, dissolution, and growth. Concludes with a review of the functions and contributions of small businesses. Brock is Frank P. Ramsey Professor of Economics at the University of Wisconsin. Evans is Associate Professor of Economics and Adjunct Associate Professor of Law at Fordham University. Bibliography; index.

FARZIN, Y. HOSSEIN. *Competition in the market for an exhaustible resource.* Contemporary Studies in Energy Analysis and Policy series, vol. 6. Greenwich, Conn. and London: JAI Press, 1986. Pp. xvi, 209. ISBN 0-89333-604-2. JEL 87-1164

Develops and employs the economic theory of exhaustible resources in the analysis of issues that have arisen since the energy crisis of the early 1970s. Examines exhaustible resource depletion, the rate of discount, and substitute technology. Analyzes the effects of regulation on the supply of an exhaustible resource. Employs the economic theory of exhaustible resources to derive a supply function for non-OPEC producers and estimates it using U.S. crude oil data. Assesses the performance of the model and presents suggestions for future research. Farzin is at the Development Research Department of the World Bank. Bibliography; index.

GJØLSBERG, OLE AND EILERTSEN, INGER-LISE. *Oil products: Studies of price relationships, 1975-*

1985. FMD Research Report Series, no. 59. Oslo: Fondet for markeds- og distribusjonsforskning, 1986. Pp. v, 73. Paper. ISBN 82-7284-089-8.

JEL 87-1165

Examination of the relative prices of gasoline, naphtha, gas oil, and heavy fuel oil. Surveys the level, trend, and variability of price differentials using price observations from the Rotterdam market. Presents a selective survey of the relevant literature and a model of the forces behind the relative oil-product prices. Analyzes the relationship between energy content and price. Discusses the relationship between crude differentials, OPEC announcements, and product differentials. Examines seasonal regularities in product prices and spreads. No index.

JOHNSON, PAUL. *Consolidated gold fields: A century portrait*. New York: St. Martin's Press, 1987. Pp. 256. \$29.95. ISBN 0-312-00549-0.

JEL 87-1166

Portrait of Consolidated Gold Fields, which describes the origins, history, and present objectives of the South African company co-founded by Cecil John Rhodes in 1887. Focuses on the people involved, associating Gold Field's history with the creative aspect of capitalism. Presents a review of the rise and development of Consolidated Gold Fields; the achievements, problems, and opportunities in South Africa; operations in America; the investment in the Newmont Mining Corporation in the United States; building for the future in Australia; and the success of ARC Limited, a British subsidiary. Examines the core strategy of the company and concludes with a look into the next century. Johnson is a writer, lecturer, and broadcaster. Index.

PENNINGS, JOHANNES M. AND BUITENDAM, AREND, eds. *New technology as organizational innovation: The development and diffusion of microelectronics*. Ballinger Series on The Management of Innovation and Change. Cambridge, Mass.: Harper and Row, Ballinger, 1987. Pp. xvi, 308. \$29.95. ISBN 0-88730-186-X.

JEL 87-1167

Thirteen papers, based on a symposium held at the Netherlands Institute for Advanced Studies during the summer of 1985, explore organizational innovation and the ramifications of the diffusion of semiconductor technology. Discusses the nature of the new technology as organizational innovation and innovation theory. Examines organizational adoption processes, including the justification process for new technology, the horizontal perspective of organization design and new technology, technological innovation and organizational conservatism,

and technology policy and innovation in organizations. Discusses areas of adoption, focusing on: managerial strategies, a marketing perspective on the diffusion of high technology, technological innovations in manufacturing, and the limits of information technology. Presents conclusions and examines integration, focusing on: the diffusion of technological innovation, new technology and organizational change, and a managerial perspective of information technology. Contributors are mainly academics specializing in Sociology, Management and Marketing. Pennings is Associate Professor in the Department of Management at the Wharton School at the University of Pennsylvania. Buitendam is Lecturer in the Department of Sociology at the State University of Groningen, Netherlands. Index.

RUTH, STEPHEN R. AND MANN, CHARLES K., eds. *Microcomputers in public policy: Applications for developing countries*. AAAS Selected Symposia Series, no. 102. Boulder, Colo.: Westview Press for the American Association for the Advancement of Science, Washington, D.C., 1987. Pp. viii, 170. \$18.95, paper. ISBN 0-8133-7144-9.

JEL 87-1168

Nine papers discuss the use of microcomputers in the formulation and execution of public policy in developing countries. Papers discuss: microcomputers in public policy and human capital development; problems arising in the introduction of microcomputers into third world countries; guidelines to the successful application of microcomputers; energy applications of microcomputers; use of microcomputers to improve budgeting and financial management in the ministry of agriculture in Kenya; government budgeting in Africa; management factors affecting the impact of microcomputers on government decision making; acquiring micro-based software in developing countries; and technology-sharing organizations. The contributors are mainly economists. Mann is Research Associate at the Harvard Institute for International Development. Ruth is Professor of Decision Sciences at George Mason University. Index.

WILLIAMS, KAREL; WILLIAMS, JOHN AND HASLAM, COLIN. *The breakdown of Austin Rover: A case study in the failure of business strategy and industrial policy*. Leamington Spa, England and Hamburg, Berg; distributed in the United States and Canada by St. Martin's Press, New York, 1987. Pp. v, 150. \$27.50, cloth; \$10.95, paper. ISBN 0-85496-515-7.

JEL 87-1169

Examines the recovery strategy developed by Sir Michael Edwards for British Leyland between

1977 and 1983. Discusses the labor productivity problem and investment strategy. Considers the problems posed by the car market in Britain and abroad, and examines relevant policy issues. Concludes that the Edwardes strategy was a failure, leaving the company with little prospect of an independent future unless a change in government policy occurs. Karel and John Williams teach economic history at the University College of Wales. Haslam teaches economics at North East London Polytechnic. Select bibliography; index.

WINSTON, CLIFFORD, ET AL. *Blind intersection? Policy and the automobile industry*. Washington, D.C.: Brookings Institution, 1987. Pp. xii, 108. ISBN 0-8157-9466-5. JEL 87-1170

Seven essays evaluate government policies for increasing the competitiveness of U.S. automobile manufacturers and for solving social problems associated with the automobile. Considers the cost competitiveness of the U.S. industry, the U.S. market demand, the economic effects of voluntary export restrictions, recent safety proposals, expectations and automobile policy, and public policy and auto industry evolution. Suggests that U.S. automakers will be able to compete relatively successfully with foreign manufacturers for a substantial share of the U.S. market; however, U.S. employment in the industry will be reduced as manufacturers continue using foreign production sources and other cost-cutting measures. Winston is Senior Fellow in the Brookings Economic Studies program. Coauthors are Ana Aizcorbe, Research Economist at the Bureau of Labor Statistics; Ann Friedlaender, Dean of Social Sciences and Humanities at the Massachusetts Institute of Technology; Fred Mannering, Assistant Professor of Civil Engineering at the University of Washington; and Dennis Sheehan, Assistant Professor of Management at Purdue University. Index.

YOSHIMURA, HIROSHI. *Distribution relation analysis of wholesale and retail in Japan*. Paper Series, no. 5. Yamaguchi City, Japan: Yamaguchi University, Economic Society, 1986. Pp. 98. Paper. JEL 87-1171

An application of distribution relation analysis to wholesale and retail trade in Japan. Defines coefficients, derives the expression for potential demand, and constructs a wholesale and a retail relation table. Uses data for 1979 to estimate: potential demand, its structure, and regional distribution; the realization ratio; conditioning factors; semi-aggregated sectoral sales; and the wholesale-retail ratio with semi-aggregated sectors. Yoshimura is

Professor of Economics at Yamaguchi University, Japan. No index.

See also: Book Numbers JEL 87-1023, 87-1024, 87-1119, 87-1132, 87-1151, 87-1154, 87-1157, 87-1158, 87-1160, 87-1187, 87-1206, 87-1223, 87-1234

700 Agriculture; Natural Resources

710 AGRICULTURE

BAR-EL, RAPHAEL, ed. *Rural industrialization in Israel*. With the assistance of ANIELA NESHER. Westview Special Studies in Industrial Policy and Development series. Boulder, Colo. and London: Westview Press in cooperation with the Settlement Study Centre, 1987. Pp. xi, 193. \$25.00, paper. ISBN 0-8133-7393-X. JEL 87-1172

Six essays examine the industrialization process in Israel, focusing on: the kibbutz, the moshav, the nonagricultural village, and the Arab village. The essays present the general background and define the specific developments of each village. The contributions review relevant conditions at local and regional levels, analyze experiences of industrial development, evaluate the achievement and attainment of development goals, and determine influential factors. Includes considerations for rural industrialization in Israel, concentrating on: objectives, the rural setting as a constraint to industrialization, constraints related to the organizational and ideological structure of the village, external influences, links between manufacturing and agriculture, and characteristics of industrial technology. Bar-El is an economist at the Settlement Study Centre, Israel. No index.

CORNELISSE, PETER A. AND NAQVI, SYED NAWAB HAIDER. *The wheat-marketing activity in Pakistan*. Islamabad: Pakistan Institute of Development Economics; Rotterdam: Erasmus University, Centre for Development Planning, 1987. Pp. xii, 125. Paper. JEL 87-1173

Report of a research project conducted between 1981 and 1983 that surveys and analyzes the working and modalities of the wheat markets in Pakistan. Assesses the strengths and weaknesses of the wheat-market network by examining the various channels through which wheat travels from the farmer to the consumer. Examines: the production and marketed surplus of wheat by farmers, the role of wheat traders and the wheat-trade network, the operation and profitability of wheat-milling, the ration-shop system, patterns of wheat consumption, wheat losses and storage, and the wheat

procurement and distribution systems. Concludes with an outline of policy recommendations and chapter summaries. Cornelisse is at the Center for Development Planning, Erasmus University, Rotterdam. Naqvi is at the Pakistan Institute of Development Economics, Islamabad. No index.

- FRIIS-HANSEN, ESBERN. *Changes in land tenure and land use since villagization and their impact on peasant agricultural production in Tanzania: The case of the Southern Highlands*. CDR Research Report series, no. 11. IRA Research Paper series, no. 16. Copenhagen: Centre for Development Research, 1986. Pp. 155. Paper. ISBN 87-88467-38-4. JEL 87-1174

Analysis of the impact on peasant agriculture of the compulsory movement of Tanzania's rural population into nuclear villages during 1974-75. Presents a historical review of village development in Tanzania and the implementation of villagization in the Iringa region. Discusses the evolution of land tenure and examines: traditional forms of tenure; changes in tenure as a result of this policy; and official codes in the new agricultural policy of 1983. Conducts case studies of the Maliwa, Ngamanga, and Mamongolo villages, focusing on: village history; the balance between settlement and land use; and changes in the farming system since 1974-75. Assesses the impact of this policy and considers some future prospects. No index.

- GITTINGER, J. PRICE; LESLIE, JOANNE AND HOISINGTON, CAROLINE, eds. *Food policy: Integrating supply, distribution, and consumption*. EDI Series in Economic Development. Baltimore and London: Johns Hopkins University Press for the World Bank, 1987. Pp. xiv, 567. Paper. ISBN 0-8018-3500-3. JEL 87-1175

Thirty-eight papers discuss issues in the area of food policy. Part 1 deals with current thinking regarding food policy and the world food situation. Part 2 focuses on the implications and status of programs to increase food production. Part 3 examines the relationship between, and trends in, food security, trade, and aid. Part 4 analyzes domestic distribution and the effects of price policies and subsidies. Part 5 deals with the problem of malnutrition and policies for nutrition interventions. Part 6 covers the lessons from experiences in food and nutrition planning. The contributors are nutritionists, agricultural economists, and members of international organizations. Gittinger is an agricultural education and training advisor in the Policy Division of the World Bank. Leslie is a staff nutritionist at the International Center for Research on Women. Hoisington is a project officer with Africare Senegal. Bibliography; index.

- INTERNATIONAL RICE RESEARCH INSTITUTE. *World rice statistics, 1985*. Manila: International Rice Research Institute, 1986. Pp. 271. Paper. ISBN 971-104-164-2. JEL 87-1176

Brings together data on rice production, consumption, prices, and other relevant statistics from various international and national sources. Current volume has a new format and revised contents, including use of FAO publications as the source of data on production, area, yield, and trade, and more tables depicting rice trade by origin and destination, the effect of tariff and nontariff measures on rice, and carry-over stocks of rice. Ninety-seven tables are divided into the following areas: production, area, and yield; imports and exports; consumption and stocks; modern rice varieties; land use, irrigation, and farm size; fertilizer use and prices; population and labor force; wages; domestic prices; and international prices and tariff and nontariff measures. Five appendix tables present data on wholesale and consumer price indexes, official exchange rates, crop calendar by country milling rates, and import conversion factors. No index.

- KELLMAN, MITCHELL. *World hunger: A neo-Malthusian perspective*. New York and London: Greenwood Press, Praeger, 1987. Pp. xviii, 242. \$38.95. ISBN 0-275-92247-2. JEL 87-1177

Analyzes food productivity from 1885 to the present. Reviews the literature of the modern era regarding the long-term relationship between man and food and assesses alternative models explaining the nature of this long-term dynamic relationship. Discusses the methodological groundwork and the analytical framework required for discrimination among competing hypotheses. Presents a statistical analysis of selected multicountry wheat and rice regions for technological epochs for each region to determine the nature and evolution of food-producing technology. Assesses the evidence of effective Malthusian pressures on basic technological changes in agricultural technology. Discusses the findings in terms of competing models of world food supply. Kellman is Professor of Economics at the City University of New York. Bibliography; index.

- MCBRIDE, GLYNN. *Agricultural cooperatives: Their why and their how*. Westport, Conn.: AVI, 1986. Pp. xvii, 352. \$42.50. ISBN 0-87055-534-0. JEL 87-1178

Undergraduate textbook about the economic rationale and legal underpinning of agricultural cooperatives in the U.S., their role in the economy and their potential role in solving marketing problems. The text is designed for use in a one-semester course in agricultural economics or marketing.

ribusiness, and other related areas, and assumes some knowledge of economic principles. Part 1 explores the economic rationale for the farm cooperative institutional arrangement, focusing on: the relationship between group action and marketing and structure; the structure of agriculture and agricultural input and output industries; and the history of U.S. antitrust policy and its significance to agricultural cooperatives. Part 2 discusses the improvement of agricultural cooperatives and examines: cooperative principles; economic feasibility; management; financing; equity redemption plans; taxes; federal marketing orders; commodity market pools; member education; communications; leadership development; performance measurement; and issues and challenges facing agricultural cooperatives. Includes end-of-chapter questions and learning suggestions. A workbook of cases in cooperative marketing is also available. McBride is a member of the Department of Agricultural Economics, Michigan State University. Index.

MORRIS, MICHAEL L. *Rice marketing in the Senegal river valley: Research findings and policy reform options*. MSU International Development Paper Series, no. 8. East Lansing, Mich.: Michigan State University, Department of Agricultural Economics in collaboration with the Senegal Agricultural Research Institute, 1987. Pp. xv, 89. \$5.00, paper.

JEL 87-1179

Presents the results of regional studies of cereal markets in the Senegal River valley. Describes the food deficit situation and agricultural development strategy of Senegal. Outlines the organization of rice markets in the Senegal River valley and assesses their performance. Discusses available policy reform options, and considers potential barriers to reform as well as means of increasing the effectiveness of policy reforms. Morris is associated with the Economics Program at the International Maize and Wheat Improvement Center in Mexico.

PEARSON, SCOTT R., ET AL. *Portuguese agriculture transition*. Ithaca and London: Cornell University Press, 1987. Pp. 283. ISBN 0-8014-1954-9.

JEL 87-1180

Fourteen papers examine different aspects of Portuguese agriculture and suggest ways of improving efficiency and productivity. Part 1 examines: constraints on the development of Portuguese agriculture; methods of analysis; commodity policies; and agricultural factor markets. Part 2 focuses on comparative advantage in Portuguese agriculture and discusses: extensive farming in the Alentejo; intensive farming in the Vale do Tejo; dairying in the Azores; and intensive agriculture in the northwest. Part 3 examines agricultural change in

the Northwest and discusses patterns of technical change as well as future technical and structural adjustments in Northwestern agriculture. Part 4 discusses future commodity policies; future policies influencing agricultural factor markets; and Portuguese agricultural strategies. Coauthors are: Francisco Avillez, Jeffery W. Bentley, Timothy J. Finan, Roger Fox, Timothy Josling, Mark Langworthy, Eric Monke, and Stefan Tangermann. Pearson is a professor at the Food Research Institute, Stanford University. Index.

PENNY, DAVID H. *Starvation: The role of the market system*. Canberra, Australia: Australian National University, 1986. Pp. xvii, 124. Paper. ISBN 0-86784-825-1.

JEL 87-1181

Examines famines that occur in economies where market exchange is the dominant force in resource allocation. Discusses death from starvation as the ultimate economic problem, the economics of starvation in a market situation, micro evidence from two villages in Indonesia, the place of starvation in modern economic theory, working toward the elimination of mass starvation, and the market system and general economic welfare. Offers an economic model that gives priority to human well-being rather than to industrial-commercial progress. The late David H. Penny was Director of Research, Department of Aboriginal Affairs, Government of Australia. Glossary; no index.

PINGALI, PRABHU; BIGOT, YVES AND BINSWANGER, HANS P. *Agricultural mechanization and the evolution of farming systems in Sub-Saharan Africa*. Baltimore and London: Johns Hopkins University Press for the World Bank, 1987. Pp. viii, 216. \$22.50. ISBN 0-8018-3503-X.

JEL 87-1182

An attempt to discover the reasons underlying the limited extent of mechanization of Sub-Saharan agriculture. On the basis of a review of the literature and field visits, the authors examine: the evolution of societies from shifting to permanent cultivation of land; the role of agroclimatic, soil, and infrastructural constraints in this evolution; the conditions necessary for a transition from the hand hoe to the plow; the persistence of the hand hoe in some areas despite efforts at mechanization; and possible policies and projects to promote the growth of agricultural mechanization. Part 1 analyzes the decision to plow. Part 2 focuses on issues relevant to the use of animal draft, and Part 3 examines the shift to motorized agriculture. Pingali is an economist at the International Rice Research Institute. Bigot is a researcher at the Centre de Coopération Internationale en Recherche Agronomique pour le Développement. Binswanger is chief of the Agricultural Research Unit of the

World Bank's Agriculture and Rural Development Department. Index.

PROSTERMAN, ROY L. AND RIEDINGER, JEFFREY M. *Land reform and democratic development*. Johns Hopkins Studies in Development series. Baltimore and London: Johns Hopkins University Press, 1987. Pp. xii, 313. \$29.50. ISBN 0-8018-3482-1.

JEL 87-1183

Argues that a program of land reform and rural development that highlights the role of the family farm can avert millions of hunger and health-related deaths and create the conditions for voluntary population control. Part 1 focuses on the roots of development and discusses: landlessness and revolution; tenure, equity, and productivity; assessments beyond agriculture—birth, death, and freedom; and four alternative models of development. Part 2 discusses family farming in South Vietnam and land reform in El Salvador. Part 3 presents prescriptions for future development and examines: guiding principles of land reform; complementary programs; and the universalization of a family-farm model. Prosterman is a professor at the University of Washington School of Law. Riedinger is a doctoral fellow at the Woodrow Wilson School of Public and International Affairs, Princeton University. Index.

SCOTT, R. H. *The value of land in Australia*. Research Monograph series, no. 47. Canberra: Australian National University, Centre for Research on Federal Financial Relations; distributed by ANU-TECH, 1986. Pp. ix, 99. Paper. ISBN 0-86784-988-6.

JEL 87-1184

Examines the valuation of land in Australia. Discusses: Australian economic history and the value of land; government and land valuation; the problems associated with land valuation; the value of land in the aggregate; interstate differentials; and issues relevant to valuation reform, tax reform, and land management. Appendices examines: land as a component of national wealth; local government in Australia; valuation legislation; and supplementary statistics. Scott is an economist. Bibliography; no index.

SWAMINATHAN, M. S. AND SINHA, S. K., eds. *Global aspects of food production*. Natural Resources and the Environment Series, vol. 20. London; River-ton, N.J. and Dehra Dun, India: Tycooly International, 1986. Pp. xx, 449. Paper. ISBN 1-85148-009-9.

JEL 87-1185

Eighteen contributions examine the global food situation and provide information relevant to the promotion of an international agricultural system based on ecology, efficiency, and equity. Topics

discussed include: food production needs, the quantitative dimensions of the nutrition problem, energy balance in agriculture, research and technology needs, germplasm resources, climate and production, water resources and their role in food production, requirements and management of nitrogen fertilizer, chemical technology for producing fertilizer nitrogen, the role of phosphorus in global food production, potassium requirements and resources, the problems and prospects of salt-affected soils, the significance of desertification, insect control, the management of disease, and building nutrition security systems. Swaminathan is Director General of the International Rice Research Institute in the Philippines. Sinha is Professor of Plant Physiology at the Water Technology Centre, Indian Agricultural Research Institute, New Delhi. No index.

See also: Book Numbers JEL 87-1147, 87-1174, 87-1183, 87-1209, 87-1245, 87-1252

720 NATURAL RESOURCES

BERGESEN, HELGE OLE; MOE, ARILD AND ØSTRENG, WILLY. *Soviet oil and security interests in the Barents Sea*. New York: St. Martin's Press, 1987. Pp. xv, 144. \$29.95. ISBN 0-312-00491-5.

JEL 87-1187

Analysis of the prospects for Soviet oil production in the Barents Sea. Focuses on the importance of the Barents Sea as a source of energy for the Soviet Union and the potential economic, military, and political problems associated with the development of petroleum production in the area. Assesses the importance of the Barents Sea as an energy option for the Soviet Union. Reviews the process of Soviet oil exploration in the Barents Sea and analyzes the possible conflict of interest between petroleum and military strategy. Outlines the major options available to the Soviet Union with respect to petroleum production in the Barents Sea. Appendices provide details of Barents Sea offshore research, planning, and development, and Soviet offshore-related purchases from abroad. Østreng is Director, Moe is Director of Soviet Studies, and Bergesen is Senior Research Fellow, Fridtjof Nansen Institute, Oslo. Index.

[CRUTCHFIELD, JAMES A.] *Natural resources economics and policy applications: Essays in honor of James A. Crutchfield*. Edited by EDWARD MILES; ROBERT PEALY AND ROBERT STOKES. Foreword by BREWSTER C. DENNY. Public Policy Issues in Resource Management series. Seattle: Institute for Public Policy and Management, Institute for Marine Studies, and University of Washington Graduate School of Public Affairs; distributed by Univer

ity of Washington Press, Seattle and London, 1986. Pp. xiii, 440. \$30.00. ISBN 0-295-96345-1. JEL 87-1188

Seventeen papers in honor of James A. Crutchfield, Professor Emeritus of Economics and a professor in the Institute for Marine Studies at the University of Washington. Papers focus on the contributions of economics to policy making regarding natural resources. Part 1 reflects the interaction of economics and policy, discussing the ways in which economics is useful in the solution of natural resource problems, the relationships between man and nature, and the impact of economics on the development of fisheries policy. Part 2 examines substantive issues such as catch quotas and shares in the fishstock as property rights, historical dynamics of the fisheries of Georges Bank, small scale fishery management in developing countries, appropriate strategies for development of fisheries, the importance of law enforcement in the fisheries industry, and large-scale water transfers in North America. Part 3 deals with analytical and methodological issues, including uncertainty and option value in environmental policy, estimating resource depletion costs, environmental risk and resource development, implications of the absence of stock-recruitment relationships in fisheries management, and the utility of static versus dynamic models in fisheries management. Part 4 is concerned with the issue of bringing specialized knowledge to bear on policy making, discussing inter-disciplinary research and environmental management. Contributors are mainly economists. Miles and Stokes are both at the Institute of Marine Studies and professors at the University of Washington. The late Robert Pealy was Professor Emeritus of Public Affairs at the University of Washington. Index.

DLEY, DON. *World energy: The facts and the future*. Second edition. New York and Oxford: Facts on File, [1981] 1986. Pp. 290. \$45.00. ISBN 0-7160-1615-1. JEL 87-1189

Second revised and updated edition examines the current world energy situation. [See JEL no. 82-0241 for annotation of the first edition.] Part 1 examines world energy consumption and reserves, and presents the outlook for world energy to the year 2000. Part 2 focuses on the potential cost, supply, and outlook for coal, natural gas, oil, nuclear energy, and electricity. Part 3 analyzes energy demand and supply throughout the world. Part 4 presents future issues and discusses questions regarding conservation, the environment, synthetic fuels, and the prospects beyond 2000. One hundred fifteen statistical tables provide information on fuel consumption, production, and demand. Bibliography; no index.

JAPAN MINISTRY OF AGRICULTURE, FORESTRY AND FISHERIES, STATISTICS AND INFORMATION DEPARTMENT. *Fisheries statistics of Japan, 1984*. Annual. Tokyo: Association of Agriculture-Forestry Statistics, 1986. Pp. 64. Paper. JEL 87-1190

A yearly publication providing information on the structure of production, marketing, and the economic situation of Japanese fisheries. [See JEL no. 86-0568 for annotation of previous edition.] Consists of twenty-one statistical charts and twenty-five statistical tables, including two reference tables on world catch for 1979-1983. No index.

KLEINDORFER, PAUL R. AND KUNREUTHER, HOWARD C., ed. *Insuring and managing hazardous risks: From Seveso to Bhopal and beyond*. New York; Berlin; London and Tokyo: Springer, 1987. Pp. ix, 534. ISBN 0-387-17732-9. JEL 87-1191

Seventeen papers presented at the "International Conference on Transportation, Storage, and Disposal of Hazardous Materials" held in Lunenburg, Austria, in July 1985. Part 1 presents historical background and focuses on: learning to cope with crises; the engineering aspects of severe accidents; the Seveso accident; and compensation for environmental damage. Part 2 discusses: insurance and compensation as policy instruments for hazardous waste management; bargaining and negotiation in hazardous waste management; and the siting of hazardous waste facilities. Part 3 focuses on risk analysis and examines: chemical hazard risk assessment; methods of risk analysis; educating and informing the public about risk; and value tree analysis as applied to offshore oil drilling. Part 4 deals with risk management and insurance, and discusses: regulating environmental risks; chemical industry hazards; environmental impairment liability; the legal regime and insurance problems of transporting hazardous materials by sea; insuring environmental liabilities; and the role of insurance in risk spreading and risk bearing. The contributors are mainly environmental and social scientists, risk analysts, and insurance and legal experts. Kleindorfer is Professor of Decision Sciences and Economics, and Kunreuther is Professor of Decision Sciences and Public Policy and Management, both at the University of Pennsylvania. Index.

MCILIN, JON. *Social and economic effects of petroleum development in non-OPEC developing countries: Synthesis report*. Geneva: International Labour Office, 1986. Pp. xiii, 104. Paper. ISBN 92-2-105505-1. JEL 87-1192

Synthesis of the findings of an ILO research project conducted between 1979 and 1985 for the purpose of assisting oil and gas producers in the non-

South, Sewanee, Tennessee, explore the theoretical, empirical, and policy dimensions of the significance of the stickiness of wages as a primary factor in causing the persistence of high unemployment in industrialized nations. Topics include: discussion of rigid wage rates versus wage flexibility; a new method for measuring wage flexibility; analysis of institutions and incentives as causes of wage inflexibility; an examination of the effects of layoffs by seniority on wage rigidity; an investigation of the effects of union activity on wage rigidity and unemployment; a survey of macroeconomic policies followed in the past; proposals for a wage tax and worker-subsidy scheme to reduce the natural rate of unemployment; the macroeconomics of profit-sharing; and wage indexation and macroeconomic fluctuations. Contributors are economists. Beckerman is Lord Thompson Fleet Fellow, University Reader, and tutor in economics at Balliol College, Oxford. Index.

BENERÍA, LOURDES AND ROLDÁN, MARTHA. *The crossroads of class and gender: Industrial homework, subcontracting, and household dynamics in Mexico City*. Women in Culture and Society series. Chicago and London: University of Chicago Press, 1987. Pp. xii, 204. \$42.00, cloth; \$15.95, paper. ISBN 0-226-04232-4, pbk. JEL 87-1202

Interdisciplinary study combining economic, sociological, and anthropological perspectives that investigates the reasons behind the growing concentration of women in the "informal sector" of the Latin American economy. Examines the economic and political implications both for the women involved and for the evaluation of employment policies that are promoting this sector. Explores the specific life situations and problems facing this group of Mexican women. Focuses on industrial homework, particularly the garment, toymaking, plastics, and electronics industries, noting that the majority of these workers are women. Examines how class and gender are articulated in a concrete working and living situation, and the dynamics of an industrial labor market within the context of development problems. Addresses questions concerning the industries involved, the tasks performed at home, subcontracting, and the labor market dynamics that result. Benería is Professor of City and Regional Planning and Women's Studies, Cornell University. Roldán is a Professor of Sociology, University of Buenos Aires. Bibliography; index.

BODIE, ZVI; SHOVEN, JOHN B. AND WISE, DAVID A., eds. *Issues in pension economics*. National Bureau of Economic Research Project Report series. Chicago and London: University of Chicago Press,

1987. Pp. ix, 376. \$45.00. ISBN 0-226-06284-8. JEL 87-1203

Eleven papers with discussants' comments, presented at a conference held in San Diego, April 1984. Papers in part 1 discuss changing philosophy about the rationale for pension funds, considering: funding and asset allocation in corporate pension plans; pension policy and the value of Pension Benefit Guarantee Corporation Insurance; and how the stock market values pension assets and liabilities. Papers in part 2 deal with the role of pensions in providing an adequate and secure retirement income, discussing concepts and measures of earnings replacement during retirement and the integration of employer pension plans with Social Security. Papers in part 3 address the effects of pensions, including Social Security, on private savings covering: uncertainty and individual savings; annuity markets, savings, and the capital stock; and dissaving after retirement. Papers in part 4 analyze the incentive effects of pension plans on labor market behavior, and pension inequality. Contributors are economists. Bodie is Professor of Finance at Boston University. Shoven is Professor of Economics at Stanford University. Wise is John F. Stambaugh Professor of Political Economy at the John F. Kennedy School of Government, Harvard University. Author and subject indexes.

BROWN, CLAIR AND PECHMAN, JOSEPH A., eds. *Gender in the workplace*. Washington, D.C.: Brookings Institution, 1987. Pp. xiv, 316. \$32.95, cloth; \$12.95, paper. ISBN 0-8157-1170-0, cloth. JEL 87-1204

Eight papers with comments and an introduction by the editors assess the importance of gender in the workforce. Papers discuss the role of gender in the labor market and economy; consumption, work roles, and economic growth between 1918 and 1980; a case study of promotion and segregation by sex in an insurance firm; the dynamics of occupational segregation among bank tellers; subcontracting in Mexico City as a means of reducing women's wages; unions and the female work force; occupational segregation among part-time and full-time workers; the importance of child support for the independence and welfare of single mothers; and the effectiveness of sex-based employment quotas in Sweden. The contributors are mainly economists. Brown is Associate Professor and Associate Director of the Institute of Industrial Relations, University of California, Berkeley. Pechman is Senior Fellow at the Brookings Institution. Index.

DAVIES, STEPHEN AND CAVES, RICHARD E. *Britain's productivity gap*. National Institute of Economic

and Social Research Occasional Papers series, no. 40. Cambridge; New York and Melbourne: Cambridge University Press, 1987. Pp. xiv, 131. \$29.95. ISBN 0-521-33464-0. JEL 87-1205

Analysis of the extent and causes of differences in productivity among British manufacturing industries and between productivity in Britain and the United States. Examines the statistical record of productivity levels in British and American industries and considers the relevance of labor relations, skills of management and labor, and sizes of companies and plants. Outlines an analytical framework for the study of relative industrial productivity and analyzes determinants of relative efficiency. Discusses the relationship between productivity, prices, market structure, and international trade. Examines relative productivity in large plants and relative productivity growth. Presents lessons for analyzing productivity and discusses implications for policy. Index.

DOERINGER, PETER B.; MOSS, PHILIP I. AND TERKLA, DAVID G. *The New England fishing economy: Jobs, income, and kinship*. Amherst: University of Massachusetts Press, 1986. Pp. viii, 147. ISBN 0-87023-535-4. JEL 87-1206

Product of team research begun in 1982 to determine how a shift in the U.S.-Canadian fishing boundary would affect socioeconomic conditions in New England. Focuses on the structure, work force, and adjustments of the New England fishing industry. Reviews the recent history of the fishing industry in New England and discusses the structure of the industry in Gloucester and New Bedford. Examines fishermen, processing workers, and their jobs. Discusses labor market structure and labor force adjustment in the fishing industry, and employment and income alternatives to fishing and processing. Concludes that both kinship and capitalist employment systems exist and discusses the implications of each system for the stability of employment in the fishing industry. Doeringer and Terkla are members of the Department of Economics at Boston University. Moss is Assistant Professor of Economics at the University of Lowell. Index.

ENGLAND, GEOFFREY. *Part-time, casual and other atypical workers: A legal view*. Research and Current Issues Series, no. 48. Kingston, Ontario: Queen's University Industrial Relations Centre, 1987. Pp. 82. Paper. ISBN 0-88886-154-0. JEL 87-1207

Focuses attention on the workers who do not fit the mold of the traditional employment relationship such as part-time employees, seasonal workers, contract workers whose term of employment

is specified, triangle workers hired by one person to do work for another employer, homeworkers, and workers whose employer pays them out of a government subsidy through job-creation programs. Argues that these workers receive inferior treatment under Canadian labor law. Examines their legal position from the perspectives of the common law employment contract, employment standards legislation, and collective bargaining legislation. Describes each group of workers in detail pointing out the main kinds of legal discrimination to which they are subjected. Concludes that these workers are playing an increasingly important role, but continue to face discrimination by the majority. Suggests a number of reforms. England is Professor of Labour Relations at the School of Management, University of Lethbridge. No index.

GUNDERSON, MORLEY; MELTZ, NOAH M. AND OSTRY, SYLVIA, eds. *Unemployment: International perspectives*. Toronto; Buffalo and London: University of Toronto Press for the Centre for Industrial Relations, 1987. Pp. ix, 224. \$25.00, cloth; \$12.95, paper. ISBN 0-8020-6636-4, pbk. JEL 87-1208

Fifteen papers plus comments, presented at an international conference of economists sponsored in November 1984 by the Centre for Industrial Relations at the University of Toronto. Provides a comparative approach for analyzing the causes and possible remedies for the 1980s unemployment problem. Examines unemployment in Western Europe, the United States, and Canada. Describes in detail the situation in the three countries, focusing on topics such as monetary policy and the regulation of inflation, wage behavior and macroeconomic policies, institutional change, flexible wage structures, labor market rigidities, and demographic components. Key issues relate to the effects of restrictive monetary and fiscal policies and whether rigidities prevent labor markets from adjusting to rapid shock effects. Examines industrial relations and their bearing on unemployment, and proposes unemployment remedies, including reducing the standard work week and behavior alteration. Gunderson is Director of the Centre for Industrial Relations and Professor of Economics at the University of Toronto. Meltz is Assistant Dean of the School of Graduate Studies and Professor of Economics and Industrial Relations at the University of Toronto. Ostry is Canadian Ambassador for Trade Negotiations. No index.

ISLAM, RIZWANUL AND MUQTADA, M., eds. *Bangladesh: Selected issues in employment and development*. New Delhi: International Labour Organisation, Asian Employment Programme (ARTEP),

1986. Pp. 297. \$12.00, cloth; \$8.00, paper. ISBN 92-2-105769-0, pbk. JEL 87-1209

Thirteen papers, all previously published, discuss key issues and problems in the development of Bangladesh. Topics include: problems of employment and poverty alleviation; rural and urban unemployment and underemployment; trends in and causes of poverty and inequality; determinants and possibilities of employment expansion in the crop sector; trade, industrialization, and employment; employment generation through cottage industries; present and potential demand for products of rural industries; technology, productivity, and employment in rural industries; employment potentials and problems in the urban informal sector; international migration and the domestic economy; and domestic resource mobilization and self-reliance. Index.

LAYARD, RICHARD. *How to beat unemployment*. With assistance from ANDREW SENTANCE. Oxford; New York; Toronto and Melbourne: Oxford University Press, 1986. Pp. 201. \$29.95. ISBN 0-19-877265-3. JEL 87-1210

Examines the rise in unemployment and discusses how unemployment can be reduced without increasing inflation. Discusses the basic facts about unemployment, the inflation/unemployment quandary, the supply side approach, aggregate demand, and alternative theories. Proposes a four rule strategy to reduce unemployment in the United Kingdom and still contain inflation that involves: creating jobs for those kinds of workers who are unemployed; training and retraining the less skilled, while targeting jobs toward those who remain unskilled; adopting a tax-based incomes policy whereby employers would pay a penalty tax if the growth in their hourly wages exceeded the norm; and defending the pound, where necessary, by higher interest rates. Layard is Professor of Economics at the London School of Economics and head of its Centre for Labour Economics. Index.

McKEE, DAVID L. AND BENNETT, RICHARD E., eds. *Structural change in an urban industrial region: The Northeastern Ohio case*. New York and London: Greenwood Press, Praeger, 1987. Pp. ix, 255. \$39.95. ISBN 0-321-0533-3. JEL 87-1211

Fifteen papers presented at a conference entitled "Appraising the Economy of Northeastern Ohio" sponsored by the Graduate School of Management and the Department of Economics of Kent State University in 1986. Part 1 assesses urban and regional vulnerability to structural economic change. Part 2 deals with some specifics on metropolitan labor markets in northeastern Ohio. Part

3 discusses the implications of deindustrialization and industrial restructuring. Part 4 presents some nonacademic perceptions regarding the impact of emerging technology and the need for international competitiveness. Part 5 assesses Ohio's position in the regional life cycle and outlines certain policy considerations. The contributors are mainly economists. Bennett and McKee are Professors of Economics at Kent State University. Selected bibliography; index.

NOYELLE, THIERRY J. *Beyond industrial dualism: Market and job segmentation in the new economy*. Conservation of Human Resources Studies in the New Economy series. Boulder, Colo. and London: Westview Press, 1987. Pp. xii, 140. \$28.50. ISBN 0-8133-7301-8. JEL 87-1212

Examination of the changes that are currently taking place in the labor market, focusing on structural developments such as the shift from manufacturing to services, the increasing internationalization of the world economy, and the introduction of new computer-communications technology. Discusses the processes of market and job segmentation that arose under industrial dualism and that are now weakening and disappearing. Presents three case studies to illustrate the hypothesized changes and identify emerging new processes of segmentation: R. H. Macy and Company in retailing; New York Telephone representing utilities; and an unnamed large insurance firm. Conceptualizes the new processes of segmentation and illustrates the new labor market interactions being brought about among major groups of workers. Concludes with a discussion of the implications for policy, emphasizing the changing nature of mobility, the role of educational institutions, and the implications for earnings and distributional policies. Noyelle is Senior Research Scholar, Conservation of Human Resources, Columbia University. Bibliography; index.

REYNOLDS, LLOYD G.; MASTERS, STANLEY H. AND MOSER, COLLETTA H. *Economics of labor*. Englewood Cliffs, N.J.: Simon and Schuster, Prentice-Hall, 1987. Pp. x, 518. ISBN 0-13-225772-6. JEL 87-1213

Textbook on labor economics designed for a one-term upper division course for economics majors. Topics include: labor markets; labor supply decisions; human capital—education and job training; demand; investment by firms in workers; wage determination in practice; the real wage level and productivity; organization and objectives of trade unions; nonwage effects and the balance sheet; discrimination; unemployment; and American workers in a world economy. Concludes with a compari-

son of U.S. labor markets with labor markets in developed, developing, and planned economies. Contains chapter summaries, key concepts, review questions, and selected readings. Reynolds is Professor of Economics at Yale University. Masters is at the State University of New York at Binghamton. Moser is at Michigan State University. Glossary; index.

ROBINSON, DEREK. *Monetarism and the labour market*. Library of Political Economy series. Oxford; New York; Toronto and Melbourne: Oxford University Press, Clarendon Press, 1986. Pp. xiv, 499. \$49.95. ISBN 0-19-877191-6. JEL 87-1214

Critique of the monetarist treatment of labor markets. Describes monetarism, and discusses: the Quantity Theory, wages and employment; the demand and supply of money; and income and wealth. Considers different definitions of income and examines the concept of permanent or lifetime income, emphasizing the importance of fairness and beliefs about the level of future income. Examines the demand for and supply of labor, introducing the notion of acceptable labor supply. Analyzes the relationship between real wages, labor supply and unemployment, and job search, and the determination of pay and employment in a free market, introducing the role of trade unions into the analysis. Examines the relationship between inflation and unemployment; the role of expectations by individuals and if there are trade unions; the natural rate of unemployment; policies of the Thatcher government; and counter-inflationary policies. Robinson is Senior Research Officer at the Institute of Economics and Statistics, Oxford University. Bibliography; index.

SANDELL, STEVEN H., ed. *The problem isn't age: Work and older Americans*. New York and London: Praeger, 1987. Pp. xiii, 265. ISBN 0-275-92371-1. JEL 87-1215

Fifteen papers conduct an analysis of the labor market problems of older workers. Part 1 examines the demographic and economic context of prospects for older workers, and labor market problems and employment policies affecting older Americans. Part 2 deals with labor market problems and examines: explanations for the reduced pay of older job losers; age changes in productivity and earnings among managers and professionals; aging and relative earnings; older workers in the market for part-time employment; and job displacement and the employment service. Part 3 discusses policies and prospects focusing on: government employment and training programs; emerging state and local initiatives; a management perspective on work alternatives for older Ameri-

cans; private-sector employment practices; the effects of restructuring the Social Security System; health plan costs, medicare, and the employment of older workers; and retirement and participation in volunteer activities. The contributors are mainly economists. Sandell is an economist at the National Commission for Employment Policy. Selected bibliography; index.

SCHAGER, NILS HENRIK. *Unemployment, vacancy durations and wage increases: Applications of Markov processes to labour market dynamics*. IUI Research Report series, no. 29. Stockholm: Industrial Institute for Economic and Social Research; distributed by Almqvist and Wiksell, 1987. Pp. 217. SKr. 178.00, paper. ISBN 91-7204-280-X. JEL 87-1216

Analysis of the dynamics of the labor market and wage formation. Part 1 presents a reinterpretation of the curve relating the stock of unemployment to the stock of vacancies—the UV curve—and examines hires as the outcome of stochastic interaction between unemployment and vacancies. Part 2 views the optimal wage and hiring policy of a firm as a controlled Markov process. A technical supplement details the structures of Markov decision processes of an employment-expanding firm. No index.

STANDING, GUY. *Unemployment and labour market flexibility: The United Kingdom*. World Employment Programme series. Washington, D.C. and Geneva: International Labour Office, 1986. Pp. xi, 147. \$21.00, paper. ISBN 92-2-105291-5. JEL 87-1217

Reviews the trends in British unemployment and assesses the theme that increased labor market flexibility would lead to a rapid reduction of that unemployment. Concentrates on 1979-1986 when unemployment rose to the highest levels since the 1930s. Considers the pattern of unemployment that has emerged, the official explanation of that unemployment, and the actual policies pursued in recent years. Reviews policies introduced in the 1985 and 1986 budgets, focusing on the link between unemployment and labor market flexibility. Discusses the demise of full employment and the incidence of unemployment. Examines government perceptions of unemployment in the 1980s, and unemployment and labor market inflexibility. Considers special measures to aid the unemployed and discusses the emergence of flexible labor systems and how this development alters the problem. Concludes that flexibility is desirable if it means skilled and autonomous adaptability but not if it requires insecurity, instability, and controlled activity. No index.

UNITED NATIONS ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC. *International labour migration and remittances between the developing ESCAP countries and the Middle East: Trends, issues and policies*. Development Papers series, no. 6. U.N. Publications Sales No. E.87.II.F.6. Bangkok: ESCAP; distributed by U.N. Sales Section, New York and Geneva, 1987. Pp. ix, 206. \$23.50, paper. ISBN 92-1-119434-2.

JEL 87-1218

Analysis of trends and major issues in the international flow of labor and remittances between ESCAP countries and the Middle East. Reviews patterns of labor and remittance flows. Examines the impact on income, balance of payments, consumption, saving, investment, prices, wages, and employment in labor exporting countries. Discusses labor recruitment and remittance procedures, and demand in labor importing countries. Reviews policy measures and options for: worker protection, the integration of returned migrants, the control of remittance flows, and cooperation among labor exporters and between exporters and importers. No index.

See also: Book Numbers JEL 87-1026, 87-1040, 87-1136, 87-1196, 87-1200, 87-1201, 87-1215, 87-1216, 87-1221, 87-1248

830 TRADE UNIONS; COLLECTIVE BARGAINING; LABOR-MANAGEMENT RELATIONS

FLANAGAN, ROBERT J. *Labor relations and the litigation explosion*. Washington, D.C.: Brookings Institution, 1987. Pp. x, 122. \$26.95, cloth; \$9.95, paper. ISBN 0-8157-2858-1. JEL 87-1219

Analyzes the nature, causes, and consequences of the litigation explosion that has developed under the National Labor Relations Act (NLRA). Provides an economic and statistical analysis of the effects of regulatory rule-making on labor relations behavior and on the regulatory process. Reviews the general features and implications of policy under the NLRA and examines the growth of regulatory litigation. Compares U.S. outcomes with those of Canada and Japan. Evaluates the controversy over the effect of NLRB regulations on labor relations outcomes. Analyzes the influence of compliance and enforcement incentives on the growth of unfair practice charges and considers implications of changes in national labor relations policy. Flanagan is Associate Professor of Labor Economics at the Graduate School of Business, Stanford University. Index.

HAGGARD, THOMAS AND PULLIAM, JAMES S. *Conflicts between labor legislation and bankruptcy law*. Labor Relations and Public Policy Series, no. 30.

Philadelphia: University of Pennsylvania, Wharton School, Industrial Research Unit, 1987. Pp. x, 278. \$27.50, paper. ISBN 0-89546-064-5.

JEL 87-1220

Comprehensive treatment of the relationship of bankruptcy law and labor legislation. Specific topics include: the rejection of collective bargaining agreements; the Supreme Court decision in *Bildisco*; the impact of Section 1113, which basically prohibits any form of unilateral modification or rejection of labor contract by a debtor; mandatory bargaining overcharges in the operation of the debtor employer's business; labor law successorship doctrine as applied to the purchaser of assets of a bankruptcy estate; bankruptcy versus NLRB jurisdiction over matters affecting the debtor's estate; bankruptcy versus arbitral jurisdiction over disputes arising under a debtor employer's collective bargaining agreement; the power of bankruptcy courts to enjoin strikes; bankruptcy status of claims for employee compensation and benefits; and the appointment of union representatives on Chapter 11 creditor committees. Haggard is a professor at the University of South Carolina Law School. Pulliam is a practicing attorney in San Diego. Index of cases.

MARSHALL, RAY. *Unheard voices: Labor and economic policy in a competitive world*. New York: Basic Books, 1987. Pp. xi, 339. \$19.95. ISBN 0-465-08869-4. JEL 87-1221

Examines the influence of worker participation on U.S. economic performance and competitiveness. Analyzes the implications of the internationalization of formerly more isolated national economies. Discusses the problems created by these changes and demonstrates the inability of traditional nonconsensus-based policies to deal with these problems. Examines the declining competitiveness of American industry because of inadequate policies, and analyzes the impact of management, collective bargaining, and worker ownership on economic performance. Demonstrates the use of consensus mechanisms for public policy making in the United States and Europe. Examines how the Japanese have used the consensus process to develop a highly competitive economic system and presents public policy recommendations for use in the United States. Marshall is Audre and Bernard Rapoport Centennial Professor of Economics and Public Affairs at the University of Texas. Bibliography; index.

PERRY, CHARLES R. *Union corporate campaigns*. Major Industrial Research Unit Studies series, no. 66. Philadelphia: University of Pennsylvania, Wharton School, Industrial Research Unit, 1987.

Pp. viii, 211. \$30.00. ISBN 0-89546-065-3.

JEL 87-1222

Objective analysis of the corporate campaign tactic of union organizing whereby secondary pressure is applied to others—stockholders, directors, financial institutions, customers, legislators, and anyone else who deals with the company—to induce them to compel company management to agree to union demands. Explains the nature of these campaigns and evaluates their successes and failures. Reviews campaigns involving BASF, Beverly Industries, Campbell Soup, Consolidated Foods (now Sara Lee), Hormel, General Dynamics, Litton Industries, Louisiana-Pacific, Phelps Dodge, and Seattle First National Bank. Six appendices provide additional material on several of these campaigns. Perry is Associate Professor of Management and Industrial Relations and Senior Faculty Research Associate in the Industrial Research Unit at the Wharton School, University of Pennsylvania. Index.

SCOTT, DANIEL T. *Technology and union survival: A study of the printing industry*. New York and London: Greenwood Press, Praeger, 1987. Pp. xix, 185. ISBN 0-275-92680-X. JEL 87-1223

Analyzes the decline in the unionization of the commercial printing industry through comparison and evaluation of historical trends in craft union membership. Examines the way in which advances in production technology introduce new forms of competition into the craft union labor market. Presents the craft union membership model as the framework for analysis. Describes the historical transformation from craft production to automated printing production, and traces the decline in craft training and the demand for craft production accompanying this transformation. Examines craft union response to technological change, and presents two case studies showing how the International Typographical Union (ITU) and the Graphics Communications International Union (GCIU) responded to the new competition. Argues that the decline in the ITU and GCIU membership between 1969 and 1983 was caused by technological skill displacement and union response to new production processes. Scott, an economist, is President of Scott Printing Company, an employer of over 200 workers. Bibliography; index.

OLLIDAY, STEVEN AND ZEITLIN, JONATHAN, eds. *The automobile industry and its workers: Between Fordism and flexibility*. New York: St. Martin's Press, 1987. Pp. viii, 335. \$45.00. ISBN 0-312-00553-9. JEL 87-1224

Thirteen essays and an introduction by the editor, based on the selected and revised proceedings of a conference held at the Lanchester Polytechnic,

Coventry, in June 1984, provide an account of the development and probable future of the automobile industry. Part 1 reviews the rise of Fordism by examining management and labor in Britain (1896-39), France (1914-39), and Italy (1906-45). Part 2 discusses industrial relations under Fordism, focusing on: an Anglo-American comparison of shop-floor bargaining, contract unionism, and job control; the rise and fall of shop-floor bargaining at Fiat, 1945-80; union strategy and shop-floor conflict in the United States, 1946-70; and industrial relations in the Japanese automobile industry, 1945-70. Part 3 looks beyond Fordism and examines: product market changes and firm strategies in the 1970s and 1980s; product and labor strategies in Japan; new production concepts in West German car plants; and recent developments in U. S. auto labor relations. Zeitlin is Lecturer in History at Birbeck College, London. Tolliday is a policy advisor at the London Strategic Policy Unit. Index.

WILLMAN, PAUL. *Technological change, collective bargaining, and industrial efficiency*. Oxford; New York; Toronto and Melbourne: Oxford University Press, Clarendon Press, 1986. Pp. xvi, 282. \$45.00. ISBN 0-19-827262-6. JEL 87-1225

Analysis of trade union reactions to innovation. Explains the origins and the incidence of trade union resistance to technical change. Discusses technological change, trade unions, and efficiency. Reviews the development of trade union policies toward new technology in the United States and the United Kingdom. Presents evidence of trade union resistance to change and examines the pattern of industrial innovation. Discusses the ways in which change is negotiated under spot contracting, focusing on the docks, automobiles, and national newspapers in the United States and the United Kingdom. Examines micro-electronics and mature industries. Reviews innovation and efficiency in the car industry and contrasts this experience with adoption of information technology in banking where there has been little conflict. Willman is a lecturer at the London Business School. Author and subject indexes.

See also: Book Numbers JEL 87-1001, 87-1009, 87-1016, 87-1017, 87-1111, 87-1200, 87-1207, 87-1208, 87-1250

849 DEMOGRAPHIC ECONOMICS

CHESNAIS, JEAN-CLAUDE. *La transition démographique (The demographic transition)*. Collection: Institut national d'études démographiques, cahier no. 113. Paris: Presses Universitaires de France; distributed by Les Éditions Françaises, Boucher-

1968

Journal of Economic Literature

ville, Quebec, 1986. Pp. iv, 580. Fr 150.00, Can\$ 43.65, paper. ISBN 2-7332-0113-1.

JEL 87-1226

Studies the demographic time series of sixty-seven countries, covering the 1720-1984 period. Examines the transitional theory of population dynamics as an alternative to Malthus's Law of Population. Appraises the steps of transitional demography, whereby the decline of natality is attributed to improved living conditions, in today's world economies. Different types of transition are analyzed in light of periods of industrialization and in contemporary situations. Recent economic implications of the transitional theory are reviewed in terms of economic growth, food production, and investment measures, particularly for developing nations. Chesnais is Head of the Department of Demography and Social Economy at the INED in Paris. Bibliography; name index. [Jean Mirucki]

PEDEN, JOSEPH R. AND GLAHE, FRED R., eds. *The American family and the state*. Foreword by ROBERT NISBET. Pacific Studies in Public Policy series. San Francisco: Pacific Research Institute for Public Policy, 1986. Pp. xxvi, 488. \$34.95, cloth; \$14.95, paper. ISBN 0-936488-05-0, pbk.

JEL 87-1227

Fifteen essays, and an introduction by the editors, examine crucial public policies that affect the family. Essays focus on political and economic theories of the family, the experience of the nineteenth and early twentieth centuries, the legal status of personal relationships, and the impact of current economic and social policies on family life. Specific topics include: the family and the state in modern political theory; the family and state: a theoretical framework; the progressive era and the family; education and the family during the Industrial Revolution; philosophic assumptions of some contemporary judicial doctrines; marriage, divorce, and property rights: a natural rights framework; freedom of contract and the family; the changing concept of child abuse; inflation, migration, and divorce in contemporary America; the state and adolescent sexual behavior; foster care; welfare, family cohesiveness, and out-of-wedlock births; and the family: federal policy and private alternatives. Peden is a lecturer in History, Baruch College, City University of New York. Glahe is Professor of Economics, University of Colorado. Index.

UNITED NATIONS DEPARTMENT OF INTERNATIONAL ECONOMIC AND SOCIAL AFFAIRS. *Review and appraisal of the World Population Plan of Action: 1984 report*. Population Studies series, no. 99. U.N. Publication Sales no. E.88.XIII.2. New York:

United Nations, 1986. Pp. vi, 169. Paper 93-1-151158-5. JEL

Report of the findings of the second review appraisal of the World Population Plan of Action undertaken by the United Nations in 1977. Contains evaluations of recommendations on: (1) economic development and population, disc economic trends, food and agriculture, soci aspects of development, and natural resources the environment; (2) the role and status of wor (3) the development of population policies; (4) ulation trends, prospects, goals, and policies, sidering topics such as population growth, mor ity and mortality, reproduction and far formation, population distribution and internal gration, international migration, and popula structure; (5) the promotion of knowledge, em sizing data collection and analysis, research, tr ing, and management; (6) the role of the nati governments and international community; and the monitoring, review, and appraisal of the Wc Population Plan of Action. Annex contains rec mendations for further implementation of World Population Plan of Action. No index.

U.S. COMMITTEE FOR REFUGEES. *World refugee survey, 1986 in review*. Washington, D.C.: Auth 1987. Pp. 80. \$6.00, paper. ISBN 0-9365-48-4. JEL 87-1

Annual survey of the status of refugees aro the world. Consists of ten articles, world refu statistics and country reports for 1986, a direct of organizations providing information about or sistance for refugees, and a selected bibliogra of basic and recent publications pertaining to re gees. Topics of the articles include: the year review, growing negative attitudes towards asy seekers and refugees in Europe, South Africa's i ugees, the empowerment of the refugee comm nity, when refugees are victims of torture, the motion of refugee protection by Amne International, conscientious objectors as refuge Southeast Asian refugees, refugee protection Thailand, and India's response to refugees. No dex.

900 Welfare Programs; Consumer Economics; Urban and Regional Economics

910 WELFARE, HEALTH, AND EDUCATION

ASCHER, KATE. *The politics of privatization: Contracting out public services*. New York: St. Mart Press, 1987. Pp. xv, 293. \$35.00. ISBN 0-31 62713-0. JEL 87-11

Analysis of the impact of the private provision of public services on private contractors, trade unions, local councils, health authorities, and the government in Britain. Discusses the geographical and political context of the debate regarding contracting out and competitive tendering. Examines the development and dimensions of Conservative policy with regard to the National Health Services (NHS), local authorities, and central departments. Reviews the implications of contracting out for the contract service industries and for trade unions. Analyzes the mechanics of competitive tendering and covers the experience with competitive tendering in the NHS and with contracting out by local authorities. Traces the causes of dissatisfaction with contracting out and discusses prospects for the future. Based on doctoral research at The London School of Economics. Ascher is a senior consultant with Harbridge House in London. Index.

AUER, LUDWIG. *Canadian hospital costs and productivity*. Ottawa: Economic Council of Canada; distributed by Supply and Services Canada, 1987. Pp. xiv, 82. \$10.75, paper. ISBN 0-660-12321-5.

JEL 87-1231

Examines the changes in the Canadian hospital sector since its services were insured under the Hospital Insurance and Diagnostic Services Act of 1957. Measures costs and productivity in the hospital sector at a detailed level and examines changes that have taken place over the years. Explores provincial variations and isolates major factors that impact on costs and productivity in hospital care. Discusses fundamental health care issues, and outlines the concepts and methods used in the study. Examines variations in the growth and levels of hospital costs and services. Concludes with a summary of the findings and a discussion of policy options available for curbing the excessive growth of health care costs. Auer is a Senior Economist, Economic Council of Canada. Bibliography; no index.

BERKOWITZ, EDWARD D., ed. *Social Security after fifty: Successes and failures*. Studies in Social Welfare Policies and Programs series, no. 5. New York and London: Greenwood Press, 1987. Pp. viii, 168. \$29.95. ISBN 0-313-25542-3. JEL 87-1232

Seven essays, by economists, historians, political scientists, and public policy practitioners, provide an interdisciplinary analysis of the Social Security Program. In his introductory essay, the editor describes the development of the concept of social security and traces the changing philosophy about financing the program. Two contributions, by Mark H. Leff and the editor, concentrate on the history of the program and its reception by historians, emphasizing its early difficulties and how past actions

have contributed to the current program. Henry J. Aaron and Lawrence H. Thompson present the changing views of American economists toward the program. Martha Derthick examines the problems and prospects of the program, emphasizing the recent administrative problems, and W. Andrew Achenbaum examines the future of the program. The volume closes with an alternative reflection of the future by Wilbur J. Cohen and a reply by Robert J. Myers, both of whom were architects of the original program. Berkowitz is Associate Professor of History and Director of the Program in History and Public Policy at George Washington University. Index.

ECONOMIC COUNCIL OF CANADA. *Aging with limited health resources: Proceedings of a colloquium on health care, May 1986*. Ottawa: Supply and Services Canada, Canadian Government Publishing Centre, 1987. Pp. vi, 233. \$11.95, paper. ISBN 0-660-12322-3. JEL 87-1233

Twenty papers and the text of the floor discussion presented at a colloquium on health care held in Winnipeg in May 1986. Papers focus on: the international perspective on health care problems and solutions; demand and supply of health care services; alternative modes of health care delivery; advances in preventive care; health care cost control; advances in medical technology; economic limits and bioethics; and Canada's future health care program. The contributors are mainly economists and health care professionals. Bibliography; no index.

EDIRISINGHE, NEVILLE. *The food stamp scheme in Sri Lanka: Costs, benefits, and options for modification*. Research Report series, no. 58. Washington, D.C.: International Food Policy Research Center, 1987. Pp. 85. Paper. ISBN 0-89629-059-X. JEL 87-1234

Examines the food stamp scheme instituted in Sri Lanka in 1979 and its performance as a replacement for the previous food subsidy scheme; assesses its costs and benefits and provides some guidelines for modifying the program within the framework of the economic policy reforms of the late 1970s. Compares price subsidy and food stamp benefits and discusses their beneficiaries, the effect on fiscal costs and income distribution, and patterns of food consumption and nutrition. Also considers inflation and the real value of food stamps, the impact of food stamps on nutrition and cost-effectiveness, and the nutrition of children and income transfers. Major findings are that there has been a deterioration in the nutritional welfare of households in the lowest segment of the income distribution and that a well-intended income trans-

for scheme has not been able to mitigate the effect of inflation on these households. Edirisinghe is Research Fellow, International Food Policy Research Institute, Washington, D.C. Bibliography; no index.

FLEMING, GRETCHEN V. AND ANDERSEN, RONALD M., eds. *The municipal health services program: Can access be improved while controlling costs?* Research Series, no. 34. Chicago: Pluribus Press for the University of Chicago Center for Health Administration Studies, 1986. Pp. xvii, 343. \$27.95, paper. ISBN 0-931028-84-1. JEL 87-1235

Evaluates the impact of the Municipal Health Services Program on access to and expenditures for health services in central city areas; the central question of the study is whether the program improved access while controlling expenditures. Analyzes where the program was successful in serving the urban population and where improvements on the model are desirable. Ten papers discuss inner city health care, the program evaluation data and methods, success in reaching the communities and people targeted for service, selection effects, use of medical care services, expenditures for medical care, waiver effects, and appropriateness of care. A general conclusion is that the program seems to be providing care to relatively disadvantaged segments of urban populations at a cost not greater than similar people are experiencing in other medical settings. Methodological and statistical appendices. Fleming is Director of Research and Development, American Academy of Pediatrics. Andersen is Professor and Director of the Center for Health Administration Studies and Graduate Program in Health Administration, University of Chicago. No index.

HARTMANN, HEIDI I.; KRAUT, ROBERT E. AND TILLY, LOUISE A., eds. *Computer chips and paper clips: Technology and women's employment*. Volume 1. Washington, D.C.: National Academy Press, 1986. Pp. xvii, 216. \$19.95, paper. ISBN 0-309-03688-7. JEL 87-1236

Report of the National Research Council, Commission on Behavioral and Social Sciences and Education, Committee on Women's Employment and Related Social Issues, Panel on Technology and Women's Employment. Identifies and analyzes the effects of technological change on both the quantity and quality of women's paid employment. Focuses on innovations in information processing and telecommunications and their applications in offices in the past, present, and future. Determines: if and how women are differentially affected by these innovations relative to men; the extent to which women of different ages, educational backgrounds,

and race and ethnic groups may be differently affected; and what factors may be shaping these effects. Covers: historical patterns of technological change regarding jobs of telephone operators, workers in the printing and publishing industries, information and data processors, retail clerks, and nurses; effects of technological change on the levels of employment and the structure of occupations; and the effects on employment quality and job content changes in terms of autonomy, responsibility, and knowledge. Makes recommendations to facilitate the mutual adaptation of technology and employment. Volume 2 will include case studies and policy perspectives. Hartmann is Study Director, Committee on Women's Employment and Related Social Issues, the Panel on Technology and Women's Employment, and the Panel on Pay Equity Research, National Research Council, Washington, D.C. Kraut is a Social Psychologist, Bell Communications Research. Tilly is Professor of History and Sociology, New School for Social Research. Index.

HAVEMAN, ROBERT H. *Poverty policy and poverty research: The Great Society and the social sciences*. Madison, Wis.: University of Wisconsin Press, 1987. Pp. xi, 307. \$37.50. ISBN 0-299-11150-4. JEL 87-1237

Describes and assesses the major social science research effort stimulated by the war on poverty instituted in 1965 by the Johnson administration. Provides an overview of public policy and poverty research. Discusses poverty research and its contribution to knowledge, focusing on: the measurement of economic well-being, poverty, and inequality; the analysis of public income support policy and its effects; social mobility, status attainment, and income dynamics; and disentangling the processes of education and training, segregation and discrimination, and labor market operation. Examines poverty research and social science methods and reviews: policy analysis and evaluation research; social policy experimentation; methods for correcting selectivity bias; and microdata simulation models for evaluating public policy. Haveman is John Bascom Professor of Economics at the University of Wisconsin, Madison. Index.

JOEKES, SUSAN P. *Women in the world economy*. INSTRAW Study series. New York; Oxford; Toronto and Melbourne: Oxford University Press, 1987. Pp. xii, 161. \$19.95. ISBN 0-19-504947-0. JEL 87-1238

Analysis of the impact of developments in the world economy upon the role and status of women. Part 1 discusses methodological issues and traces the changing position of women in terms of health

and education, economic activity, and certain macro- and micro-economic factors. Part 2 assesses the impact of international trade and finance and technological change on the status of women. Part 3 discusses employment trends for women in the agricultural, industrial, and service sectors. Part 4 summarizes the findings regarding the impact of emerging trends in the international economy on women and proposes an agenda for innovative development policies aimed at improving the status of women. Joeke is associated with the Institute of Development Studies at the University of Sussex. Bibliography; index.

MEYER, JACK A. AND LEWIN, MARION EIN, eds. *Charting the future of health care: Policy, politics and public health*. AEI Studies series, no. 449. Washington, D.C.: American Enterprise Institute for Public Policy Research; distributed by UPA, Lanham, Md., 1987. Pp. ix, 190. \$24.50, cloth; \$12.75, paper. ISBN 0-8447-3611-2, pbk.

JEL 87-1239

Nine essays analyze the important trends in the health care sector and their implications for the future. Three essays discuss the implications for health care of the current federal budget environment, describing: the fiscal conditions, cutting costs, budget cutbacks, the future of health care financing, reforming physical reimbursements under Medicare, and the experience in California of selective contracting for health care services. Two essays address the future, from the perspective of the roles of professionals and technological change, dealing with health trends and their implications for the health care professions, alternatives for the future of the health care system, and medical technology in a changing health care environment. Four essays are concerned with improving health status, including individual behavior, workplace reforms, public health issues, cost-effectiveness analysis, wellness approach, the AIDS concerns, health care and economic self-sufficiency, and health care and low income. Meyer is President and Founder of New Directions for Policy, a research firm studying welfare and health care issues. Lewin is Director of AEI's Center for Health Policy Research. No index.

RUSSELL, LOUISE B. *Evaluating preventive care: Report on a workshop*. Studies in Social Economics series. Washington, D.C.: Brookings Institution, 1987. Pp. x, 107. \$22.95, cloth; \$8.95, paper. ISBN 0-8157-7626-8.

JEL 87-1240

Summary of the proceedings of a workshop held at the Brookings Institution in May 1986 to assess the potential of prevention for improving the health of older people. Examines a cost-effective-

ness model of health effects in the case of hypertension and discusses how to translate health effects into work capacity. Reviews the health effects, interventions, and cost-effectiveness analysis of smoking, exercise, dietary calcium, alcohol use, and obesity. Russell is a senior fellow in the Brookings Economic Studies program. Bibliography; index.

SCHRAMM, CARL J., ed. *Health care and its costs*. American Assembly, Columbia University, series. New York and London: Norton, 1987. Pp. x, 301. Paper. ISBN 0-393-95671-7.

JEL 87-1241

Contains background papers used by participants at a meeting of the American Assembly at Arden House in November 1986. Illuminates the importance of problems associated with health care delivery and finance. Papers examine the structure and financing of the current health care delivery system; public opinion and health care costs; changes in U.S. health care over the last twenty years; risk-bearing in health care finance; the changing role of the physician; the interaction of population aging and health transitions at later ages; long-term care; and health care technology and policy. Schramm is Director of the Johns Hopkins Center for Hospital Finance and Management and Associate Professor in the School of Hygiene and Public Health at Johns Hopkins University. Index.

SMOLLAN, ROY, ed. *Black advancement in the South African economy*. New York: St. Martin's Press, 1986. Pp. 256. \$35.00. ISBN 0-312-06253-3.

JEL 87-1242

Seventeen papers that examine factors affecting the economic advancement of the black population in South Africa, with emphasis on the selection and development of human resources by South African organizations to achieve corporate objectives in a fair and just manner. Topics include the history of Black involvement in the South African economy; the growth of Black business in South Africa; the role of Black women in the economy; the trade unions and Black advancement; educational, economic, organizational and social, and legal obstacles to Black advancement; the roles of the state, private sector, and nonprofit organizations in education and training; planning and implementing advancement programs; identifying Black management potential; training needs and techniques; and case studies of experiences with programs at SA Cyanamid, Barclays National Bank, and Rand mines. Contributors are mainly economists, businessmen, sociologists, and educational specialists. Smollan is Lecturer in Management, Mangosuthu Technikon, Umlazi, KwaZulu, South Africa. Bibliography; index.

STEIDLMEIER, PAUL. *The paradox of poverty: A reappraisal of economic development policy*. Business in a Global Environment series. Cambridge, Mass.: Harper and Row, Ballinger, 1987. Pp. xx, 318. \$29.95. ISBN 0-88730-184-3.

JEL 87-1243

Examines the paradox of persistent, and even growing, poverty and hunger amid progress and economic growth. Part 1 examines the structure of the problem and elements of the diagnostic method. Part 2 provides a social analysis of development, and considers: population, resources, and scarcity; the promise of technology; power and social organization; and cultural paradigms. Part 3 discusses development as social change and focuses on domestic and international development policies. Steidlmeier teaches at the School of Management, State University of New York, Binghamton. Author and subject indexes.

WORLD HEALTH ORGANIZATION. *Intersectoral action for health: The role of intersectoral cooperation in national strategies for health for all*. Geneva: World Health Organization, 1986. Pp. 152. \$14.00, paper. ISBN 92-4-156-096-7.

JEL 87-1244

Recommendations of the 39th World Health Assembly held in May 1986 and the background document used for technical discussions. Examines what intersectoral collaboration as a national health strategy entails in terms of its practical implementation and how it can be used to improve the health status of populations. Focuses on four areas: equity and health; agriculture, food, and nutrition; education, culture, information, and life patterns; and environment, water and sanitation, habitat, and industry. Also considers how to avoid or mitigate health risks associated with industrialization and development, and issues related to the place of health in resource allocation and adjustment policy. Bibliography; no index.

See also: Book Numbers JEL 87-1018, 87-1023, 87-1059, 87-1081, 87-1181, 87-1197, 87-1202, 87-1203, 87-1204, 87-1215, 87-1219, 87-1220, 87-1233, 87-1240, 87-1249

920 CONSUMER ECONOMICS

RAUNIKAR, ROBERT AND HUANG, CHUNG-LIANG, eds. *Food demand analysis: Problems, issues, and empirical evidence*. Ames: Iowa State University Press, 1987. Pp. xvi, 285. \$23.95. ISBN 0-8138-1841-9.

JEL 87-1245

Thirteen studies review the theoretical framework for demand analysis and discuss applications and interpretations of complete and partial demand systems. Part 1 presents concepts of consumer de-

mand theory, reviews data sources for demand analyses, and discusses examples of data problems in demand analyses. Part 2 examines the use of complete demand systems for the analysis of consumer behavior regarding various food and nonfood items. Part 3 discusses partial systems of demand equations with a commodity emphasis, and socioeconomic, demographic, and psychological variables in demand analyses. Part 4 examines policy issues affecting nutrition, focusing on: consumer demand for nutrients in food; food consumption and nutrient intake patterns of school-age children; and the impact of the food stamp program on food expenditures and diet. The contributors are mainly economists. Raunika is Professor of Agricultural Economics and Huang is Associate Professor of Agricultural Economics, both at the University of Georgia's Agricultural Experiment Station at Griffin. Index.

VISCUSI, W. KIP AND MAGAT, WESLEY A. *Learning about risk: Consumer and worker responses to hazard information*. With JOEL HUBER ET AL. Cambridge, Mass. and London: Harvard University Press, 1987. Pp. viii, 197. \$27.50. ISBN 0-674-51915-9.

JEL 87-1246

Seven contributors, drawing on work in economics, decision science, marketing, and psychology, present new evidence on how people process information about risk and how they make choices under uncertainty. Examines information processing and individual decisions, and cognitive considerations in presenting risk information. Discusses the design of a consumer information study to discover the effects of labeling potentially hazardous products and uses the responses of the survey to analyze how the content and format of the information on product labels affect the precautionary behavior of consumers who use them. Examines the effect of changes in product risk on the price consumers are willing to pay for it and discusses a field study of the effect of hazard warnings in the workplace in the chemical industry. Concludes with a discussion of implications for economic behavior. Viscusi is Professor of Economics at Northwestern University. Magat is Associate Professor at the Fuqua School of Business, Duke University. Index.

See also: Book Numbers JEL 87-1136, 87-1170, 87-1247

930 URBAN ECONOMICS

BURNS, LELAND S. AND GREBLER, LEO. *The future of housing markets: A new appraisal*. Environment, Development, and Public Policy—Cities and Development series. New York and London:

Plenum Press, 1986. Pp. ix, 200. \$29.50. ISBN 0-306-42313-8. JEL 87-1247

Examines the future of the housing market, focusing on those changes in the prospective housing demand that are shaped by demographic and emergent social forces. Relies on data from the U.S. Bureau of the Census and the authors' study of demographic trends and projections. Traces the changing demographic conditions for housing demand in detail and reviews socioeconomic trends affecting household formations. Describes the relation between age and housing demand and examines demand changes and supply responses for housing in the future. Concludes that the trend toward higher quality housing will continue and that there will be an increase in the transfer of economic activities from the workplace to the residence. Burns and Grebler are with the University of California at Los Angeles. Index.

MOHAN, RAKESH. *Work, wages, and welfare in a developing metropolis: Consequences of growth in Bogotá, Columbia*. New York; Oxford; Toronto and Melbourne: Oxford University Press for the World Bank, 1986. Pp. xi, 403. \$29.95. ISBN 0-19-520540-5. JEL 87-1248

Studies the determination of labor income in urban areas in the context of rapid urban and economic growth using data collected from 1977 to 1980 and then 1984 in two cities, Bogotá and Cali, Colombia. Presents the spacial distribution, income distribution, and extent and distribution of poverty characteristics in Bogotá and Cali. Part 2 examines the characteristics of the urban labor market in Bogotá that help explain some of its population characteristics. Specific topics include: labor force characteristics, determinants of labor force participation and labor earnings, labor market segmentation, and estimating earnings functions for women. The final chapter summarizes the main findings of the study, relates them to the overall economic environment in Colombia, and assesses their relevance to understanding the growth processes of large cities. Concludes that high urban unemployment, long-run employment problems, high poverty, and segmented labor markets need not accompany rapid urban growth. Mohan is Economic Advisor, Planning Commission, Government of India. Index.

SCOTT, TERRENCE J. AND MAZIARKA, ROBERT F. *Elderly housing options*. Chicago: Pluribus Press, 1987. Pp. 235. \$39.95. ISBN 0-931098-87-6. JEL 87-1249

A guide to the housing market for the elderly. Discusses the evolution and potential of hospital involvement and interest in Congregate Housing

with Services for the Elderly (CHSE). Reviews the history of life care and CHSE. Outlines the procedures for determining market feasibility and selecting the appropriate service package and rental rates for CHSEs. Discusses financial feasibility and project costs, and methods of long-term financing and sources of equity. Analyzes alternative roles for health care organizations. Discusses project development and working with developers and outside investors. Examines issues and challenges from a chief executive officer's and planner's perspective. Scott is President and Maziarka is Executive Vice President, Elderly Management Corporation, Inc. Index.

940 REGIONAL ECONOMICS

BOOTH, DOUGLAS E. *Regional long waves, uneven growth, and the cooperative alternative*. New York and London: Greenwood Press, Praeger, 1987. Pp. v, 121. \$32.95. ISBN 0-275-92367-6. JEL 87-1250

Presents a theoretical explanation of uneven regional growth in the United States in terms of long waves and details historical evidence in support of this thesis. Contends that a cooperative alternative is necessary during regional slow growth periods and outlines the theoretical support for the superior results accruing from cooperative ownership and control of the means of production. Documents the experience of worker cooperatives and examines methods of fostering regional development through the creation of a cooperative economic sector. Booth is Assistant Professor of Economics at Marquette University. Bibliography; index.

BURGHARDT, STEVE AND FABRICANT, MICHAEL. *Working under the safety net: Policy and practice with the new American poor*. Sage Human Services Guides series, no. 47. Newbury Park, Calif.; London and New Delhi: Sage Publications in cooperation with the University of Michigan School of Social Work, 1987. Pp. 180. Paper. ISBN 0-8039-2700-2. JEL 87-1251

Analysis of the nature and extent of American poverty. Reviews the various forms of intervention devised to alleviate poverty and critically assesses the welfare state and its policies. Examines the recent intensification of poverty. Evaluates the status of the homeless, the hungry, the aged, black single-parent women, the physically disabled, and the new unemployed. Outlines new organizational and practice directions for eliminating poverty. Burghardt and Fabricant are Associate Professors of Urban Policy and Research, Hunter College School of Social Work, New York.

LANE, THEODORE, ed. *Developing America's northern frontier*. Lanham, Md. and London: University Press of America, 1987. Pp. xx, 249. \$28.50, cloth; \$13.75, paper. ISBN 0-8191-6082-2, pbk.

JEL 87-1252

Ten papers, two previously published, present American and Canadian perspectives on issues relating to the economic development of the arctic and subarctic North. Part 1 focuses on the prospect of northern development without oil. Papers examine Alaskan policies toward commercial fisheries and review the Canadian North's potential development of energy and other resources. Part 2 deals with the North's adaptation to economic development. Papers analyze import substitution in frontier regions; the labor force status of Alaska's native population; and the impact of economic development on native culture. Part 3 examines local governance and attempts at Canadian land-use planning as well as the Alaska Native Claims Settlement Act. Part 4 analyzes the consequences of development for the northern people and assesses the impact on communities, transient work forces, and the legal process. Lane is Adjunct Professor of Economics at the University of Alaska, Anchorage. No index.

[LÖSCH, AUGUST.] *Space-structure-economy: A tribute to August Lösch*. Edited by ROLF H. FUNCK AND ANTONI KUKLINSKI. Karlsruhe Papers in Economic Policy Research series, vol. 3. Karlsruhe, West Germany: von Loeper; distributed in the United States and Canada by Kober Press, San Francisco, 1986. Pp. vii, 311. Paper. ISBN 3-88652-680-1.

JEL 87-1253

Nineteen essays collected to honor August Lösch. Part 1 considers Lösch's contributions and evaluates them according to the criteria of his own time. Appraises his contributions to the classical theory of location and the beginnings of a general theory of socio-economic development in space. Presents a review of his contributions to other areas of economic research such as the impact of demographic developments on growth, the theory of transfer, and the theory of trade. Emphasizes his contributions to the concept of region and reviews his impact in Poland, the U.S.S.R., and Japan. Part 2 is devoted to the extensions of Lösch's concepts and research based on his foundations, covering: market areas; technologically induced dynamic changes; spatial regularities in India; the centrality and location of urban places for a region's economic performance; the impact of language differences on spatial interaction; and aspects of nonprofit enterprises in the Löschian spatial framework. Part 3 presents a more personal perspective about Lösch. Funck is with the Institut für Wirtschaft-

spolitik und Wirtschaftsforschung, University of Karlsruhe. Kuklinski is with the Institute of Socio-economic and Regional Geography, University of Warsaw. No index.

PERRYMAN, M. RAY AND SCHMIDT, JAMES R., eds. *Regional econometric modeling*. International Series in Economic Modeling. Norwell, Mass.; Dordrecht and Lancaster: Kluwer Academic, Kluwer-Nijhoff, 1986. Pp. xv, 254. \$49.95. ISBN 0-89838-216-5.

JEL 87-1254

Nine papers summarize current methodological, external linkage, and data and model evaluation issues and procedures in applied modeling related to regional economics and its subfields. Topics include: extensions and refinements of Peter Gottschalk's (1978) estimation of production functions; the theoretical specification, nature of variables, and usefulness of regional econometric models and the New Jersey state model; the design and use of integrated state-substate econometric models for long-run economic analysis; linking regional economic models for policy analysis with special reference to the NRIES II and RIMS II regional modeling systems; a theoretical exposition of the sensitivity of the regional business cycle with time series, cross-sectional, and predictive applications; a method for analyzing the changing impact of the business cycle on regional economics; a general framework for interpolation, distribution, and extrapolation of a time series by a related series; techniques for determining if a time series can be seasonally adjusted reliably; and an analysis of the forecasting accuracy of regional econometric models. Perryman is Herman Brown Professor of Economics and Director of the Center for the Advancement of Economic Analysis, Baylor University. Schmidt is Associate Professor of Economics, University of Nebraska. Index.

See also: Book Numbers JEL 87-1042, 87-1146, 87-1206, 87-1211

RELATED DISCIPLINES

COX, GARY W. *The efficient secret: The cabinet and the development of political parties in Victorian England*. Political Economy of Institutions and Decisions series. Cambridge; New York and Melbourne: Cambridge University Press, 1987. Pp. xiv, 187. \$32.50. ISBN 0-521-32779-2.

JEL 87-1255

Analysis of the institutional changes in parliamentary government in nineteenth-century England. Reviews key political and economic events. Presents evidence for increased party voting in Parliament and critiques prior explanations of this trend. Traces the rise of the cabinet as the primary

legislative and executive power, and the simultaneous changes in the procedure of the House of Commons. Evaluates the impact of the increased importance of the Cabinet on voting behavior in Parliament and in the constituencies during the latter half of the nineteenth century. Examines the development, causes, and consequences of a party-oriented electorate. Assesses the influence of constituents in Victorian England and outlines the history of party voting. Cox is Associate Professor of Government at the University of Texas at Austin. Author and subject indexes.

PENCER, SAMIA I., ed. *Foreign languages and international trade: A global perspective*. Athens, Georgia and London: University of Georgia Press, 1987. Pp. xxiv, 255. \$30.00. ISBN 0-8203-0822-6.

JEL 87-1256

Twenty-seven papers examine the importance of the study of foreign languages for the future of the U.S. economy and the continued health of the world trade community. Papers focus on: foreign languages and international trade; a working partnership; international trade in the United States; foreign languages and cultural awareness; teaching foreign languages and business skills; foreign languages and careers; and international schools and international programs. Contributors are foreign language scholars, educators, government officials, and business professionals. Spencer is Professor of French and Director of Graduate Studies at Auburn University. No index.

THOMPSON, DENNIS L. AND RONEN, DOV, eds. *Ethnicity, politics, and development*. David M. Kennedy Center for International Studies monograph series, vol. 2. Boulder, Colo.: Lynne Rienner, 1986. Pp. x, 222. \$22.50. ISBN 0-931477-57-3.

JEL 87-1257

Ten selected essays and an introduction by Dov Ronen resulting from a conference on economic and social development in multi-ethnic states by the International Political Science Association Committee on Politics and Ethnicity held at the University of Glasgow, in August 1984. Papers discuss: ethnic bargaining; a framework for comparative analysis of ethnic politics and public policy in Western societies; a hegemonial exchange model for managing conflict in Middle Africa; a conceptual reformulation of ethnic politics in Nigeria; state creation and ethnicity in a federal (plural) system and Nigeria's search for parity; development strategies and patterns of ethnicity in Africa; communal and political identities and mobilization among the Lebanese Shi'a from 1975-85; the Iranian revolution as a crisis of social science theory; and a case study of system breakdown in the Punjab. Thomp-

son is Professor of Political Science, Brigham Young University. Ronen is Director, Africa Research Program, Center for International Affairs, Harvard University. Index.

NEW JOURNALS

Asian Economies

Quarterly journal of the Research Institute of Asian Economies. No. 60 (March 1987) includes articles on: the Hong Kong approach to using scenarios as a tool of long-range economic planning; social and economics aspects of farm mechanization in South Korea; monetarist perspectives of Papua New Guinea's hard currency strategy; and macroeconomic policy, deficits and foreign debt problems for developing countries. Annual subscription: \$24.00 plus overseas postage of \$6.00 per year. Write to: Research Institute of Asian Economies, 132-3, Sungbookdong, Sungbook-Ku, Seoul, South Korea. (ISSN 0304-280X.)

Economia Politica

A journal of economic theory and analysis published three times a year by Società editrice il Mulino, Bologna. Volume 3, issue no. 1 (April 1986) includes one article in English on a more "General Theory" and six articles in Italian (with English summaries) on: fixed capital as a "species" of joint production, the real rate of interest with perfectly expected inflation, the compatibility of the Pareto principles with personal liberty, the transaction demand for credit and money, a recent reconstruction of the History of Economic Thought, and new developments in the study of technical progress. Also includes an introductory essay on the "marriage" of neo-Ricardian and neoclassical economics and a book review section. Annual subscription: L. 40.000 (Italy), L. 80.000 (elsewhere), L. 110.000 (air-mail). Write to: Società editrice il Mulino, Via S. Stefano 6, 40125 Bologna, Italy.

Environment and Planning C: Government and Policy

Published quarterly by Pion Limited, London. Vol. 4, no. 4 (November 1986) contains papers on the themes of development in intergovernmental fiscal centralization and decentralization, and urban economic development and intergovernmental relations. Also includes a guest editorial, an article on organizing government for regional development, and book reviews. Annual subscription: \$90.00 including air delivery. Single copy: \$27.00. Special rates are available if ordered with A, B, or D series. United Kingdom and personal subscription rates are available on request. Write to: Pion Limited, 207 Brondesbury Park, London NW2 5JN, England. (ISSN 0963-774X.)

Estudios de Economía

Biannual publication (in Spanish with English summaries) published by the Department of Economics of the University of Chile, favoring empirical papers on the Chilean economy and Latin American countries in general. Vol. 13, no. 2 (December 1986) contains articles on: nominal interest rates and inflation; sources of structural change in the Chilean industrial sector; labor market segmentation in Chile; an option theory analysis of deposit insurance and incentives to risk taking; and a cross-country analysis of wage and non-wage regulations of labor market institutions. Write to: Unidad de Publicaciones, Departamento de Economía, Universidad de Chile, Diagonal Paraguay 257, torre 26 (oficina 1402) Casilla 3861, Santiago-Chile.

Gestion 2000—Management and Perspective

Published six times a year by the I.A.G.—School of Management of the Catholic University of Louvain, this bilingual journal (French-English) emphasizes management practices and the development of innovative ideas or experiences. Issue no. 6 (1986) contains six articles on money in private life and seven articles (one in English) on money in professional life. Most issues include descriptions and evaluations. Annual subscriptions: FB 5,000; single copies: FB 1,000. Write to: *Gestion*, Avenue de l'Espinet, 16, B-1348 Louvain-la-Neuve, Belgium. (ISSN 0773-0543)

International Journal of Technology Management

Published quarterly (in English with French, German, and Japanese summaries) by Inderscience Enterprises Ltd. with the assistance and cooperation of the United Nations Education, Scientific and Cultural Organization. Vol. 1, no. 3/4 (1986) contains articles on priorities in Spain's R&D system; government policy on science, research and technology in the German Federal Government and the Republic of China; prospects for collaboration and a common industrial policy in Europe for high tech industries; the dynamics of change; internationalization and localization; the "informationization" of industry and society; engineering design for profit; the role of design in the management of technology; the world car concept and the volume manufacturer; the design of competitive manufacturing system; the implications of advanced manufacturing technologies for marketing strategy; European view of the Japanese approach to productivity and quality; technological development and competition; modeling the diffusion of innovations; a comparative analysis of U.S. and U.K. experience in technology transfer; the technical role in competition analysis; and the history

and benefits of the Kitemark. Regular departments include briefs, conference reports, book reviews, commentaries, and the economic outlook for the United States, Europe, and the Far East. Annual subscription: \$120.00. Write to: Inderscience Enterprises Ltd., Order Department, World Trade Centre Building, 110 Avenue Louis Casal, Case Postale 306, CH 1215 Geneva-Aéroport, Switzerland. (ISSN 0267-5730)

The Journal of Agricultural Economics Research

Quarterly publication of the Economic Research Service, U.S. Department of Agriculture. Vol. 39, no. 2 (Spring 1987) contains articles on: trade and agricultural research; arbitrage conditions, interest rates, and commodity prices; U.S. grain exports and the value of the dollar; contrasting agricultural commodity data; and economic impacts on consumers, growers, and processors resulting from mechanical tomato harvesting in California. Several book reviews appear in each issue. Annual subscription \$5.00, U.S.; \$6.25, foreign. Write to: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Journal of Economic Surveys

Published biannually by Tieto Ltd., of Avon, England, to present surveys of recent contributions and developments across the broad spectrum of economics. Vol. 1, no. 1 (1987) contains articles on: econometric methodologies; economic reform in Eastern Europe; and recent developments in the theory of natural monopoly. Reviews computer software, books, and conferences in each issue. Annual subscription: £15.00 U.K., \$29.00 U.S. (libraries and institutions); £6.00 U.K., \$12.00 U.S. (individuals); and £4.00 U.K., \$8.00 U.S. (students). Rates based on two issues in 1987; four will be published in 1988. Write to Tieto Ltd., Bank House, 8A Hill Road, Clevedon, Avon BS21 7HH, England. (ISSN 0950-0804)

The Kashmir Economic Review

Bi-annual publication of the Department of Economics, University of Azad Jammu and Kashmir, Pakistan. Volume 2, no. 1 (January-June 1985) presents articles on growth, inflationary finance, and the transition path to equilibrium; poverty in Pakistan; a generalization of the customs union vs. unilateral tariff reduction analysis; intersectoral differentials and distribution of income in Pakistan; and a book review. Annual subscription: \$12.00 (\$20.00, air mail). Single issue \$8.00 (\$12.00 air mail). Write to: *The Kashmir Economic Review*, Department of Economics, University of Azad Jammu and Kashmir, Muzaffarabad (AK), Pakistan.

Midsouth Journal of Economics and Finance

Published jointly by: the Midsouth Academy of Economics and Finance; the Department of Economics, Finance, and Applied Legal Studies of the Mississippi State University; and the Department of Economics of the Memphis State University. Formerly titled the *Midsouth Journal of Economics*. Vol. 10, no. 3 (December 1986) includes articles on: the perceived effect of risk by employers on earnings of parolees; a time-series analysis of political monitoring in the production of high-powered money; industry structure, price changes, and capacity utilization; a programming model for internal migration in less-developed regions; labor supply and the nonpecuniary characteristics of employment; an empirical examination of economic factors used in direct foreign-investment decisions; reformation of China's banking system; stock prices and the money supply; the stability of tastes in alternative theories of consumer choice; and a computer simulation model for evaluating alternative macroeconomic systems. For subscription information, write to: *Midsouth Journal of Economics and Finance*, Department of Economics, Memphis State University, Memphis, Tennessee 38152.

The Practical Accountant

Published monthly by Warren, Gorham 050 Lamont, Inc. of Boston. Vol. 20, no. 6 (June 1987) contains features on: how to handle the tax aspects of bankruptcy for individuals; a checklist for tax-saving opportunities under the 1986 Tax Reform Act; how to use Statement on Auditing Standards no. 50; the interest deduction for individuals after tax reform; how to market financial planning services profitably; nine ways to coordinate more effectively with attorneys in tax disputes; and the CPA-physician relationship. Regular departments focus on: the accountant's tax alerts; inside the IRS;

accounting and auditing report; the accountant's image; tax blunders; personal financial planning; computers; practice management; book reviews; and classified advertising. Annual subscription \$54.00, U.S.; \$79.00, foreign. Write to: Warren, Gorham 050 Lamont, Inc., 210 South Street, Boston, MA 02111. (ISSN 0032-6321)

Review and Perspective

Published quarterly by the Center for Business and Economic Research of the College of Business and Economics, University of Kentucky. Addresses business, economic, and public policy issues related to Kentucky. Vol. 11, no. 1 (Spring 1987) contains articles on: transitions in banking; the economic impact of Toyota on Kentucky; and the socio-economic impact of Toyota on Scott County. Regular features include selected indicators of economic activity and sections containing information, news, and current publications. No charge for subscription. Write to: *Review and Perspective*, Center for Business and Economic Research, 301 Mathews Building, University of Kentucky, Lexington, 40506-0047. (ISSN 0270-1421)

Rivista Milanese di Economia

Quarterly Italian language journal published by Cassa di Risparmio, Lombard. The January-March 1987 issue (no. 27) contains four articles on: Marxism and Pareto, the evolution of the Italian monetary system; the immovable market, and foreign trade at the subnational level. Also includes seven regular departments concerning: dimensions of the economy, conjectural and sociological observations, views from the university, articles on finance and industry, historical research, and book reviews and notes. For information, write to: Cassa di Risparmio, Via Filodrammatici, 3, 20121 Milan, Italy.

Editor's Note

The following persons assisted the editors in annotating these books: Mrs. Joan Daley and Dr. Vibha Kapuria-Foreman and Professor Reuben E. Slesinger (both of the University of Pittsburgh).

The articles appearing in the Subject Index were classified under the direction of Professor Asatoshi Maeshiro, Editorial Consultant, assisted by Mr. A'Amer Farooqi, Mr. Nayyer Hussain, Mr. Edgar L. Zamalloa, and Mrs. Lorena M. Zamalloa (all of the University of Pittsburgh).

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Selected Abstracts

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These abstracts are prepared by the author of each article. Each journal editor, where we have an abstracting agreement, is responsible for instructing the author according to our style sheet. These editors are responsible, additionally, for sending these abstracts to the *Journal of Economic Literature*. Only a minimal amount of copy editing is done on these abstracts; thus the reader should turn to the author of the abstract and not this journal if an error of fact or phrasing arises.

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000 General Economics; Theory; History; Systems

010 GENERAL ECONOMICS

011 General Economics

Buchanan, James M. and Tollison, Robert D.—A Theory of Truth in Autobiography

The "truth" in autobiography depends on the observable historical record of a person's life. The less attractive the observed life, the more "truthful" is the autobiography. This result does not require differential standards of honesty as among autobiographers. It does depend on the presupposition that there exists a common value scale along which lives may be judged, and upon the common directional bias toward the "good" in all autobiography. *Kyklos*, 1986, 39(4), pp. 507-17. George Mason University.

Etzioni, Amitai—Toward a Kantian Socio-economics

Recent criticisms of utilitarianism have given new importance to Kantian philosophy and ethics. In the Kantian tradition, this paper argues for replacing the neoclassical with a socio-economic paradigm drawing on other social science disciplines. Central to the socioeconomic paradigm are the use of a bi-utility conception, emphasizing both pleasure and morality, rather than one overarching utility and the acknowledgement of the need to study preference formation. This paper concludes with a call to end the intrusion of the excessively parsimonious

neoclassical paradigm into the other social sciences, and instead for economics to use the knowledge accumulated in other social sciences. *Rev. Soc. Econ.*, Apr. 1987, 45(1), pp. 37-47. George Washington University.

Gottfries, Nils and Hylton, Keith—Are M.I.T. Students Rational? Report on a Survey

This paper reports the results of a survey conducted in the Massachusetts Institute of Technology campus dining halls. The aim of the survey was to delineate students' perceptions of marginal costs in a very specific, but not uncommon, situation. A majority of the respondents' answers suggest a complete misunderstanding of the relevant marginal costs. *J. Econ. Behav. Organ.*, Mar. 1987, 8(1), pp. 113-20. Stockholm University; Massachusetts Institute of Technology.

Mayhew, Anne—Culture: Core Concept under Attack

Core institutionalist ideas of culture and instrumental valuation come under attack when insistence upon the universality of instrumental reasoning becomes insistent upon the universality and centrality of rational human behavior, and when the study of rational strategy comes to be seen as the important task of social science. The threat to the core of culture-centered social science is intensified when insistence upon the importance of reasonable and rational human behavior is further transformed through a fallacy of composition into a statement about the rational (or irrational) nature of institutions.

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of economies with transaction costs, this result is used to discuss the conditions for the existence of an equilibrium in economies with incomplete markets. *Int. Econ. Rev.*, June 1987, 28(2), pp. 275-90. London School of Economics and Bank of Spain.

022 Microeconomic Theory

Appelbaum, E. and Katz, E.—Asymmetric Taxation and the Theory of the Competitive Firm under Uncertainty

This paper examines the implications of the asymmetries in the tax treatment of corporate profits and losses for the theory of the competitive firm under uncertainty. It is shown that the tax asymmetry introduces a curvature into the firm's target function which affects its behavior in the short run. In long-run industry equilibrium, however, most of the effects disappear at the firm level, but still remain at the industry level. *Can. J. Econ.*, May 1987, 20(2), pp. 357-69. York University; York University and Harvard University.

Bonanno, Giacomo—Vertical Differentiation with Cournot Competition

This paper reexamines the problem of whether two firms in the same market choose to produce a homogeneous product or differentiated products. A subgame perfect equilibria of a two-stage game is determined where firms first choose the quality of their products and then compete in prices or outputs. It is shown that the answer depends on the type of competition which is assumed to take place in the post-entry game and on the cost conditions. In particular, if the post-entry game is Cournot Nash, Hotelling's principle of minimum differentiation may hold. *Econ. Notes*, 1986, (2), pp. 68-91. Nuffield College, Oxford.

Choi, Eun Kwan and Johnson, Stanley R.—Consumer's Surplus and Price Uncertainty

This paper investigates the conditions under which expected equivalent variation provides a correct ranking of stabilized and uncertain price situations. Expected equivalent variation can be recovered from ordinal preferences whereas *ex ante* equivalent variation requires additional information regarding consumer attitudes toward income risk. The two measures

are equal for income risk-neutral consumers. More important for applied welfare analysis where income risk aversion is presumed, expected equivalent variation provides a lower bound for *ex ante* equivalent variation. These two features of expected equivalent variation commend it as a viable welfare measure for applied work. *Int. Econ. Rev.*, June 1987, 28(2), pp. 407-11. Iowa State University.

Dionne, Georges and Lasserre, Pierre—Adverse Selection and Finite-horizon Insurance Contracts

The authors use a particular contract to analyze three issues regarding adverse selection, monopoly, and the use of time within a finite horizon: the description and existence of an epsilon equilibrium; the achievement of a Nash equilibrium; and the optimality of risk revelation. Among the results obtained, the authors show that, at equilibrium, low-risk individuals buy full insurance most of the time and high-risk individuals always buy full insurance. They also show that the equilibrium with risk revelation is a Nash equilibrium. These results are compared with those of the self-selection mechanism in Stiglitz (1977) and the epsilon equilibrium under moral hazard in Radner (1981). *Eur. Econ. Rev.*, June 1987, 31(4), pp. 843-61. University of Montreal.

Eldor, Rafael and Zilcha, Itzhak—Discriminating Monopoly, Forward Markets and International Trade

This paper analyzes the effect of uncertainty on output and export of a price-discriminating firm which sells its produce both in domestic and world markets. It is shown that under some conditions exports increase when uncertainty is introduced. In the presence of forward markets a "separation theorem" holds and total output increases to the competitive firm level, while exports are larger than those of the competitive firm. *Int. Econ. Rev.*, June 1987, 28(2), pp. 459-68. Tel-Aviv University.

Epstein, Larry G.—The Unimportance of the Intransitivity of Separable Preferences

If preferences are strongly separable in the pointwise partition of goods, then demand functions implied by an intransitive preference are

dering can also be generated by a transitive (and strongly separable) ordering. Thus, if strong separability is appropriate, intransitivity is not empirically detectable from demand behavior. Two applications are discussed—the "expected-regret" model of choice under uncertainty and the robustness of turnpike propositions of capital theory. *Int. Econ. Rev.*, June 1987, 28(2), pp. 315–22. University of Toronto.

Fishe, Raymond P. H. and McAfee, R. Preston—Nonlinear Contracts, Zero Profits and Moral Hazard

Contracts that base payments on an *ex post* variable are examined. It is shown that a quadratic contract form may elicit truthful responses from auction participants and offer zero expected profits to the winning bidder, but not eliminate adverse incentives *ex post*. A general impossibility theorem is proven. This theorem establishes that, regardless of functional form, no contract can offer zero expected profits and resolve the *ex post* moral hazard problem. *Economica*, Feb. 1987, 54(213), pp. 97–101. University of Miami; University of Western Ontario.

Flaschel, Peter and Semmler, Willi—Classical and Neoclassical Competitive Adjustment Processes

This article introduces a stable cross-dual adjustment process for Sraffa-von Neumann models. Excluding free goods, but not process extinction, from consideration, it proves furthermore the global asymptotic stability of a simple modification of this classical adjustment process. The relationship of this approach to neoclassical stability analysis and recent attempts to formalize the classical idea of equalizing profit rates is explored. *Manchester Sch. Econ. Soc. Stud.*, Mar. 1987, 55(1), pp. 13–37. Universität Bielefeld, Germany; New School for Social Research, New York.

Freixas, Xavier and Mas-Colell, Andreu—Engel Curves Leading to the Weak Axiom in the Aggregate

For every range of admissible incomes, the authors characterize the class of Engel curves with the property that if an economy has, first, a price independent distribution of income and,

second, preferences which are identical across consumers and generate Engel curves in the class, then the corresponding aggregate demand function satisfies the Weak Axiom of Revealed Preference. This class is defined by two simple conditions. The no-torsion condition says that, in the relevant range of income, the Engel curve is contained in a plane through the origin. The uniform-curvature condition says that, in addition, the Engel curve is either convex or concave to the origin. *Econometrica*, May 1987, 55(3), pp. 515–32. University of Social Sciences of Toulouse; Harvard University.

Gal-Or, Esther—Strategic and Non-strategic Differentiation

When firms choose the characteristic of their products before output is produced, imperfectly competitive firms may use this characteristic strategically so as to reduce the output level produced by the rival. Using a simple two-stage duopoly model, the author demonstrates that such "strategic" use of the product attribute reduces the degree of differentiation between brands. As an outcome, each firm loses some market power and competition is more intense. The author demonstrates through an example that such reduced differentiation leads to reduced joint profits and reduced welfare. *Can. J. Econ.*, May 1987, 20(2), pp. 340–56. University of Pittsburgh.

Gilad, Benjamin; Kaish, Stanley and Loeb, Peter D.—Cognitive Dissonance and Utility Maximization: A General Framework

Neoclassical theory of utility maximization assumes irrational behavior to be unsystematic and therefore impossible to model. Recent advances in behavioral decision theory suggests irrationality may be systematic. In line with these and earlier findings from the theory of cognitive dissonance, a simple descriptive model of utility maximization is developed with the added feature of an information filter. The model is then used to explain a few "irrational" micro and macro behaviors. *J. Econ. Behav. Organ.*, Mar. 1987, 8(1), pp. 61–73. Rutgers University.

Harris, Milton and Holmstrom, Bengt—On the Duration of Agreements

A model of optimal contracts between two infinitely-lived parties, a borrower and lender, is presented and analyzed. The objective is to explain the phenomenon of finite-length, multi-period contracts. It is shown how costly information acquisition can account for multi-period contracts which are of bounded length. Comparative-statics results on how contract length responds to exogenous parameters, such as the cost of information acquisition, are also derived. *Int. Econ. Rev.*, June 1987, 28(2), pp. 389-406. Kellogg Graduate School of Management, Northwestern University; Yale University.

Hey, John D.—The Dynamic Competitive Firm under Spot Price Uncertainty

The main result of this paper is that the classic "marginal cost equals price" condition for the output of the perfectly competitive firm in a one-period certain world carries over to a many-period uncertain world if the firm is allowed to hold inventories and if there exists a forward market for the firm's product. This implies the separation of the firm's output decision from its sales decision, and the separation of the firm's output decisions in different periods. Furthermore, output is unaffected by the uncertainty and the firm's attitude to it, though the sales decisions do depend on these factors. *Manchester Sch. Econ. Soc. Stud.*, Mar. 1987, 55(1), pp. 1-12. University of York, England.

Karni, Edi and Safra, Zvi—"Preference Reversal" and the Observability of Preferences by Experimental Methods

This paper shows that: (1) the "preference reversal" phenomenon can be consistent with transitive preferences if these preferences violate the independence axiom of expected utility theory and (2) for the class of experiments that were used to produce the evidence concerning "preference reversal," the elicitation of certainty equivalents is possible if, and only if, the respondent's preferences can be represented by functionals that are linear in the probabilities. Furthermore, a more general class of experiments is not immune to "preference reversal" if nonexpected utility preferences are admitted. *Econometrica*, May 1987, 55(3), pp. 675-85. Johns Hopkins University; Tel-Aviv University.

Laffont, Jean-Jacques and Tirole, Jean—Comparative Statics of the Optimal Dynamic Incentive Contract

Each period a firm must carry out an indivisible project, the cost of which depends on the firm's constant efficiency and its (variable) level of "effort." Only the cost is observed by the regulator who has to choose the incentive scheme. The optimal dynamic mechanism is derived under possible commitment of the regulator over time. Then, under noncommitment, it is shown that there are four types of continuation equilibria. Also the profile of effort levels is compared to the commitment case. Finally, some numerical comparative statics is performed and it is shown that all types of equilibria can be optimal. *Europ. Econ. Rev.*, June 1987, 31(4), pp. 901-26. University of Social Sciences of Toulouse, France and EHESS, Paris; Massachusetts Institute of Technology.

Lambson, Val Eugene—Dynamic Behaviour in Large Markets for Differentiated Products

An important question is how well competitive models approximate models of large finite economies. For a class of differentiated products models, static Nash equilibria, if they exist, always converge to competition as the number of firms increases. Dynamic Nash equilibria need not so converge. Easily checked conditions for convergence to competition do, however, exist. *Rev. Econ. Stud.*, Apr. 1987, 54(2), pp. 293-300. University of Wisconsin.

Legros, Patrick—Disadvantageous Syndicates and Stable Cartels: The Case of the Nucleolus

This paper considers a bilateral market with two complementary commodities and gives a rationale for R. J. Aumann's paradox (1973). The relationship between the notion of strong stability of a syndicate, i.e. the property that no group of players wants to exist or to enter the syndicate, and the notion of disadvantageous syndicates is summarized in two results. If the two sides of the market are balanced in terms of endowments, every syndicate is strongly stable. If the two sides of the market are not balanced in terms of endowments, then being advantageous, in Aumann's definition, is necessary and sufficient for a syndicate to be strongly stable. *J. Econ. Theory*, June 1987.

42(1), pp. 30-49. California Institute of Technology.

Li, Lode; McKelvey, Richard D. and Page, Talbot—Optimal Research for Cournot Oligopolists

An oligopolistic industry faces uncertain demand. Firms can conduct research prior to production, obtaining private data that is informative of the unknown parameters of demand. Firm strategies thus consist of a level of research and a subsequent production strategy based on their research findings. The authors characterize the Bayes equilibrium of such a model when demand is linear, with unknown intercept, and the information structure has linear conditional expectations. The authors compare the solution to an efficiency standard, finding inefficiencies even in the competitive limit. *J. Econ. Theory*, June 1987, 42(1), pp. 140-66. Massachusetts Institute of Technology; California Institute of Technology; University of California, Los Angeles.

MacLeod, W. Bentley—Behavior and the Organization of the Firm

In this paper a new way of distinguishing between cooperative and noncooperative organizations is introduced. This distinction is based on well-known solution concepts and is applied to the problem of organizing production teams in a firm. The author's first result demonstrates that income-sharing cooperative firms are not necessarily inefficient, as suggested in A. Alchian and H. Demsetz (1972) and B. Holmstrom (1982). Second, it is shown that if a capitalist firm is interpreted as a noncooperative organization, then it must be less efficient than corresponding cooperative organizations due to the additional monitoring of workers needed to stop shirking. Finally, an informal discussion is presented explaining why, despite their apparent advantages, more cooperative firms are not observed in practice. *J. Compar. Econ.* June 1987, 11(2), pp. 207-20. Queen's University, Ontario.

MacLeod, W. Bentley—Entry, Sunk Costs, and Market Structure

Typically, models that study the role of sunk costs that incumbent firms face entry

by a single firm each period. In this paper, the set of equilibrium market structures that result when all firms are free to enter or exit and set prices each period are characterized. The effect of sunk costs on the market structure is examined and it is shown that sunk costs can take on various forms, each having a different effect on the set of equilibrium market structures. Costs that are sunk due to the existence of product-specific capital do not in general deter entry. Rather, entry deterrence is a necessary outcome only when costs are sunk due to the time it would take to leave the market. *Can. J. Econ.*, Feb. 1987, 20(1), pp. 140-51. Queen's University, Ontario.

Mariger, Randall P.—A Life-cycle Consumption Model with Liquidity Constraints: Theory and Empirical Results

A structural consumption model incorporating endogenous liquidity constraints is fit to a cross section of 798 U.S. families. Liquidity constrained families are estimated to constitute 19.4 percent of the population sampled, a group that accounts for 16.7 percent of consumption in the population sampled. In-sample simulations of the model suggest that a temporary tax has three to four times more impact on aggregate consumption than it would if liquidity constraints were not in effect. *Econometrica*, May 1987, 55(3), pp. 533-57. University of Washington.

Maskin, Eric and Tirole, Jean—A Theory of Dynamic Oligopoly, III; Cournot Competition

The authors study the Markov perfect equilibrium (MPE) of an alternating move, infinite-horizon duopoly model where the strategic variable is quantity. They exhibit a pair of difference-differential equations that, when they exist, differentiable MPE strategies satisfy. For quadratic payoff functions, they solve these equations in closed form and demonstrate that the MPE corresponding to the solution is the limit of the finite-horizon equilibria as the horizon tends to infinity. The authors conclude with a discussion of adjustment costs and endogenization of the timing. *Europ. Econ. Rev.*, June 1987, 31(4), pp. 947-68. Harvard University; Massachusetts Institute of Technology.

Matthews, Steven—Comparing Auctions for Risk Averse Buyers: A Buyer's Point of View

Buyer's preferences over auctions depend on their measure of absolute risk aversion. If it is constant and they have independent private values, they are indifferent between a first-price auction (FPA), a second-price auction (SPA), and a first-price auction in which the number of bidders is revealed before bids are taken (FPA-R). If they have decreasing absolute risk aversion, they prefer the SPA to the FPA-R to the FPA. Their preference for the SPA is diminished to the extent that their values are affiliated. Affiliation also causes them to prefer the number of bidders to be revealed, whereas the seller then prefers to keep it secret. *Econometrica*, May 1987, 55(3), pp. 633-46. Northwestern University and the University of Pennsylvania.

Meran, Georg and Wolfstetter, Elmar—Optimal Risk Shifting vs. Efficient Employment in Illyria: The Labor-Managed Firm under Asymmetric Information

Using an optimal-contract framework, the recent literature showed how labor-managed firms can reach efficient employment, internal risk sharing, and risk shifting to outside investors if all information is public. This paper analyzes the labor-managed firm under asymmetric information between members and investors, and explores one-period arrangements in a way which parallels the recent work on optimal wage-employment contracts in capitalist firms. The main result is that, contrary to the Coase theorem, the two specifications of property rights entail different allocations of risk and employment. It is also shown how long-term arrangements ease the conflict between optimal employment and risk shifting. *J. Compar. Econ.*, June 1987, 11(2), pp. 163-79. Free University of Berlin.

Okuguchi, Koji—Equilibrium Prices in the Bertrand and Cournot Oligopolies

The equilibrium prices for the Bertrand and Cournot oligopolies with product differentiation are compared. If all firms have linear demand and cost functions and if, in addition, the Jacobian matrix of the demand functions has a dominant negative diagonal, the Cournot equilibrium

prices are now lower than the Bertrand ones. The general condition for the comparison of the Bertrand and Cournot equilibrium prices can be derived even if the nonlinearity is involved in the cost and/or demand functions. *J. Econ. Theory*, June 1987, 42(1), pp. 128-39. Tokyo Metropolitan University.

Osborne, Martin J. and Pitchik, Carolyn—Cartels, Profits, and Excess Capacity

A model of a collusive duopoly in which each firm has limited capacity is studied. The negotiated output quotas depend on the bargaining power of the firms, which derives from the damage the firms can do by cutting prices. For fixed capacities, the unit profit of the small firm is at least as large as that of the large firm, and the relative position of the small firm is better when demand is low. When the capacities can be chosen once-and-for-all, there is excess capacity in equilibrium so long as the cost of capacity is not too high. *Int. Econ. Rev.*, June 1987, 28(2), pp. 413-28. McMaster University, Canada; University of Toronto.

Panzar, John C. and Rosse, James N.—Testing for "Monopoly" Equilibrium

This paper develops a very general test for "monopoly." Using standard comparative statics analysis, the authors derive testable restrictions on the firm's reduced-form revenue equation which must be satisfied by any profit-maximizing firm whose choices are not affected by either strategic interactions or the threat of entry. For such an unfettered monopolist, the sum of the factor price elasticities of the reduced-form revenue equation must be nonpositive. The set of interesting alternative hypotheses is not empty. The authors develop simple models of oligopolistic, competitive, and monopolistically-competitive markets for which this test statistic may take on positive values. *J. Ind. Econ.*, June 1987, 35(4), pp. 443-56. Northwestern University; Stanford University.

Ravallion, Martin—On Expectations Formation when Future Welfare Is Contemplated

People often seem to gain present satisfaction from contemplating a favorable future. This paper examines the implications of such behavior for expectations formation. Formally, satisfaction

tion is said to be derived from "contemplation" whenever *ex post* utility depends on expectations independently of their bearing on *ex ante* actions. Contemplation is shown to be necessary and sufficient for informationally biased forecasting in a model of the intertemporal consumption decision. Thus the Muth-rationality of expectations requires restrictions on the (derived) preference ordering over expectations and realizations which preclude contemplation. Bias tests of surveyed expectations are given a choice-theoretic interpretation. *Kyklos*, 1986, 39(4), pp. 564-73. Research School of Pacific Studies, Australian National University.

Waldman, Michael—Noncooperative Entry Deterrence, Uncertainty, and the Free Rider Problem

Previous authors who have considered the issue of noncooperative entry deterrence have not found the free-rider problem to be a significant factor. These authors, however, have only considered models in which the exact investment needed to deter entry is known with certainty. The author adds uncertainty to the models investigated by these previous authors, and demonstrates that the free-rider problem can be significant. That is, for certain types of entry deterring investments the introduction of uncertainty causes the oligopoly to underinvest in entry deterrence; however, for other types no underinvestment result arises. *Rev. Econ. Stud.*, Apr. 1987, 54(2), pp. 301-10. University of California, Los Angeles.

Zaghini, Enrico—Natural Prices and Market Prices. An Interpretation of the Walrasian Theory of Accumulation

This paper analyzes the relationship between classical price theory and Walrasian price theory. It is shown how the two classical notions of market prices and of natural prices are integral and inseparable aspects of the classical conception of the competitive mechanism of capital accumulation. It is argued that the proper comparison of classical and Walrasian price theories cannot be made if we consider the exchange and production model in which capital goods are exclusively considered. It is shown how the Walrasian accumulation theory constitutes the theoretical foundation of the classical concep-

tion of natural prices. *Econ. Notes*, Apr. 1986, (1), pp. 10-59. University of Rome.

023 Macroeconomic Theory

Allsbrook, Ogden O. and Gilliam, Kenneth P.—An Attenuated Exposition of the Ramsey-Keynes Rate of Saving

Using a simplified format common to both Ramsey and Keynes savings arguments, the Ramsey argument is redeveloped and, where Keynes' argument seemingly differs, is translated into the format which generalizes Ramsey's rule. With this common approach, relationships between capital, income, consumption, saving, and assumptions for the optimal saving rate are determined. *Econ. Notes*, 1986, (3), pp. 70-84. University of Georgia; Kennesaw College.

Andersen, Torben M.—Effective Demand, Differential Information and the Multiplier

The paper develops a rigorous model of the interaction between employment, income and demand. It is shown that when agents are differently informed about the income generated in the economy, aggregate demand shocks create a Keynesian-type unemployment. Moreover, the model explains nominal wage/price stickiness and a multiplier effect so as to imply that a larger burden of adjustment is taken by quantities rather than prices. *Econ. J.*, June 1987, 97(386), pp. 353-71. University of Aarhus, Denmark.

d'Autume, Antoine and Michel, Philippe—Déséquilibre général et investissement (General Disequilibrium and Investment)

The authors analyze an intertemporal disequilibrium macroeconomic model under perfect foresight and with a fixed real wage. The focus is on investment behavior derived from an intertemporal optimization. The introduction of overtime work ensures the absence of discontinuities between regimes. This enables the authors to clarify the respective roles of the real wage level, autonomous demand, and expectations in the determination of the level of output both in the short and long run. *Ann. Econ. Statist.*, Oct./Dec. 1986, (4), pp. 23-51 (French). University of Paris-I and Laboratoire d'Economie Politique de l'ENS; Centre de

Mathématiques Économiques et d'Informatique, University of Paris-I.

Blanchard, Olivier J. and Summers, Lawrence H.—Fiscal Increasing Returns, Hysteresis, Real Wages and Unemployment

European unemployment is widely regarded as a problem of excessive real wages. It is often stressed that there is a sharp conflict between the interests of those currently employed and the unemployed. This paper shows that this conflict is less acute than is usually thought. It shows that, because of a kind of fiscal increasing returns, increases in employment in Europe are likely to be associated with rising real take-home pay for workers because economic expansion makes possible reductions in taxes sufficiently large to offset any diminishing returns to labor. Under a variety of plausible conditions, tax cuts would succeed in stimulating employment. *Europ. Econ. Rev.*, Apr. 1987, 31(3), pp. 543–60. Massachusetts Institute of Technology and National Bureau of Economic Research; Harvard University and National Bureau of Economic Research.

Bródy, András; Martinás, Katalin and Sajó, Konstantin—An Essay on Macroeconomics

Theoretical tools of constructive thermodynamics can be applied to analyze the change of the macroscopic variables of a given economic subsystem. In close analogy to the entropy function, a Z potential function, depending only on the macroscopic variables, may be set up and shall be clearly increasing during regular economic processes. *Acta Oecon.*, 1985, 35(3–4), pp. 337–43. Institute of Economics, Hungarian Academy of Sciences, Budapest; Eötvös Loránd University, Budapest; Eötvös Loránd University, Budapest.

Chopra, Ajai and Montiel, Peter J.—Output and Unanticipated Money with Imported Intermediate Goods and Foreign Exchange Rationing

This paper develops a simple "new classical" structural model that includes several features likely to be of importance in developing countries. The economy is modeled as an open economy along Mundell–Fleming lines, imported

intermediate goods are introduced, and foreign exchange is assumed to be rationed. A reduced-form output equation is derived from this model, which is a generalization of its closed-economy analog. After the properties of the model are analyzed, the reduced-form output equation is estimated for the Philippines. The empirical results conform quite closely to the predictions of the model. *Int. Monet. Fund Staff Pap.*, Dec. 1986, 33(4), pp. 697–721. International Monetary Fund, Washington, D.C.

Darity, William A., Jr. and Cottrell, Allin F.—Meade's *General Theory* Model: A Geometric Reprise

James Meade's 1937 two-sector formalization of Keynes's *General Theory* is reconsidered in some detail. This paper develops a geometric scheme that facilitates the use of comparative statics in working with the Meade model to demonstrate the richness of its possibilities. The paper also argues that the Meade model might have provided a superior starting point for the development of algebraic interpretations of Keynes's system when compared with John R. Hicks's IS–LL framework, particularly since the Meade model affords a direct bridge toward James Tobin's monetary transmission mechanism. *J. Money, Credit, Banking*, May 1987, 19(2), pp. 210–21. University of North Carolina; Elon College.

Flemming, J. S.—Wage Flexibility and Employment Stability

How is the variance of employment affected by the speed of response of money wages to labor market disequilibrium? This is considered in a model which, apart from partial adjustment of the wage, is neoclassical, including rational expectations. Output is determined by demand which, like supply, is subject to shocks which affect employment. A faster wage response increases the impact of shocks on employment. In some cases this outweighs the effect of speedier equilibration, supporting an assertion of Keynes's. Since the nominal wage that is given in the short-run monetary policy is important, several variants are considered. *Oxford Econ. Pap.*, Mar. 1987, 39(1), pp. 161–74. Bank of England and Nuffield College, Oxford.

Greenfield, Robert L.—Walras's Law in Macroeconomic Disequilibrium

Does Walras's Law hold in general disequilibrium? This note finds in the affirmative. Against a depression's unmistakably effective excess supplies of goods and services stands an effective excess demand for money. Expressed in terms of effective excess demands, Walras's Law, far from the equilibrium condition that some writers portray, is a tool of disequilibrium analysis. The Law reminds us how effective and notional demands diverge in the first place and why any apparent failure of effective demand for currently produced output stems from attempts to hold cash balances adding up to more money than actually exists. *Australian Econ. Pap.*, Dec. 1986, 25(47), pp. 257–60. Fairleigh Dickinson University.

Greenwald, B. and Stiglitz, J. E.—Keynesian, New Keynesian and New Classical Economics

Formal developments of Keynes's *General Theory*, while attempting to achieve a new classical synthesis of the realities of observed macroeconomic fluctuation and unemployment with classical microeconomics, have come to be surprisingly closely tied to the old classical models. Keynes's insights have been reduced largely to an assumption of nominal price rigidities. In fact, Keynes's original qualitative approach contained a much richer description of economic reality. This paper describes how fully rational microeconomic models incorporating imperfect information and incomplete markets, very much in the Keynesian tradition, imply macroeconomic behavior that encompasses most of the qualitative insights of the *General Theory*. *Oxford Econ. Pap.*, Mar. 1987, 39(1), pp. 119–33. Bell Communications Research, Morristown, New Jersey; Princeton University and the Hoover Institution, Stanford University.

Marini, Giancarlo—Price Variability, Supply-Side Policies and Monetary Rules

Wage-subsidy policies or demand management are equally effective in stabilizing output about its frictionless level in Fischer–Gray predetermined labor-contracts models. However, if the authorities are also concerned with price

variability, the optimal monetary rule is unambiguously superior. *Economica*, Feb. 1987, 54(213), pp. 109–11. London School of Economics.

Newell, A. and Symons, J. S. V.—Corporatism, Laissez Faire, and the Rise in Unemployment

This paper studies the relationship between wage-setting institutions and the behavior of unemployment in a number of countries. It argues that *laissez-faire* wage setting generates a high and often variable unemployment rate. Corporatism, wage setting by central organizations commanding the obedience of individual workers and employers, can generate a lower wage rate and a higher employment. This theoretical analysis is complemented by econometric work, and by discussion of the institutions of Sweden, Germany, the United Kingdom, Japan, and the United States. *Europ. Econ. Rev.*, Apr. 1987, 31(3), pp. 567–605. London School of Economics.

Patterson, Kerry David—The Development of Expectations Generating Schemes Which Are Asymptotically Rational

As an alternative to the hypothesis of fully rational expectations, this study develops the concept of asymptotically rational expectations, and applies it in the problem of model design. Easily applied conditions are derived to ensure asymptotic rationality and several models are developed which satisfy these conditions. The connections are shown between developments of the adaptive expectations hypothesis and, *inter alia*, error-correction mechanisms. The ideas are illustrated with the Livingston price-expectations data. *Scott. J. Polit. Econ.*, Feb. 1987, 34(1), pp. 1–18. University of Reading, England and Bank of England.

Phaneuf, Louis—Propriétés dynamiques des modèles du cycle à contrats échelonnés (The Dynamic Properties of Staggered Contracts Models)

This paper investigates the robustness of the dynamic properties of staggered-contracts models. The author first analyzes the persistence of several different types of shocks in a model with constant nominal wages over the life of

ie contracts. The dynamic pattern of the effects of some types of shocks suggests problems with the staggered-contracts formulation. Second, it is shown that under the assumption of variable nominal wages during contracts, the effects of all shocks last only one period despite the existence of two-period nominal rigidities. *Can. J. Econ.*, Feb. 1987, 20(1), pp. 123-39 (French). University of Quebec at Montreal.

Reynolds, Peter J.—Wage Rises and Income Distribution—A Note

This paper examines the effect of money-wage increases on manual labor's share of value added for the U.K. manufacturing sector using core-periphery model. An increase in the rate of money-wage increases, for example from 10 percent to 11 percent, constrains firms' mark-ups and thereby increases manual labor's share by an estimated 1 percent immediately and by a further 1 percent if the higher rate of wage increases is sustained. For an open economy, manual labor's share would be further increased, depending on the source of inputs and the extent to which material prices keep pace with wage costs. *Manchester Sch. Econ. Soc. Stud.*, Mar. 1987, 55(1), pp. 77-87. North Staffordshire Polytechnic, England.

Rowe, Nicholas—An Extreme Keynesian Macro-economic Model with Formal Micro-economic Foundations

This paper presents a formal general-equilibrium model of a monetary economy in which agents' decision rules are derived from the underlying preferences, technology, endowments, and information. Firms face kinked demand curves for the reason given by J. Stiglitz (1979)—customers know the price at their current firm but not at other firms. The results are compatible with extreme Keynesian macro-economic predictions, as presented by J. Woglom (1982). There is no automatic tendency to full employment, and a change in the money supply may cause a permanent change in real output with no change in prices. *Can. J. Econ.*, May 1987, 20(2), pp. 306-20. Carleton University, Ontario.

Seath, William M.—Can Economic Growth Make Monetarist Arithmetic Pleasant?

A monetarist policy rule requires bond-financed budget deficits, and this policy is feasible if the real growth rate exceeds the after-tax interest rate. The author assumes this condition is met, but still finds that bond-financed deficits lead to larger output deviations than do money-financed deficits. The model involves rational expectations, sticky prices in the short run, and natural rate features in full equilibrium. A significant attempt is made to avoid the Lucas critique, since the rate of price adjustment is allowed to depend on deficit-financing policy as dictated by the microeconomic underpinnings. *Southern Econ. J.*, Apr. 1987, 53(4), pp. 1028-36. McMaster University, Canada.

Sneessens, Henri R.—Investment and the Inflation-Unemployment Tradeoff in a Macroeconomic Rationing Model with Monopolistic Competition

This paper develops a stylized macroeconomic disequilibrium model in which the three regimes of Keynesian unemployment, classical unemployment, and repressed inflation are explicitly distinguished, and wherein prices and the capital stock are endogenously determined by profit-maximizing firms. The framework is one of monopolistic competition, and the macroeconomic price and employment relationships are derived by explicit aggregation over individual firms. Because different firms can be in different regimes, the three regimes listed above always coexist at the aggregate level, and do so in proportions that may vary through time. *Europ. Econ. Rev.*, Apr. 1987, 31(3), pp. 781-808. Catholic University of Louvain and Faculté Libre de Sciences Economiques de Lille, France.

Sweeney, Richard J.—Some Macro Implications of Risk

Using the capital asset pricing model as the financial sector of a conventional rational-expectations macro model, an increase in expected inflation reduces the long-run capital stock, contrary to the usual result. This occurs because the induced fall in real balances increases equity's share in the market, raises equity's beta and discount rate, and reduces investment. Increases in the variance of disturbances to aggregate

gate demand reduce the capital stock, while increases in the variance of inflation raise the stock. A proportionate increase in both variances reduces the capital stock. *J. Money, Credit, Banking*, May 1987, 19(2), pp. 222-34. Claremont McKenna College and Claremont Graduate School.

Woods, J. E.—On the Matrix Multiplier

The multiplier is usually treated within the context of expenditure models, either aggregate or multi-sectoral, with the emphasis mainly, if not solely, on propensities to save. The restrictiveness of this approach can be appreciated once incomes are divided into wages and profits. Then, the multiplier depends not only on the conditions of production and the distribution of income but also, in a multi-sector model, on the different consumption patterns. The purpose of this paper is to give an account of a general matrix multiplier, dependent on these four sets of factors, and to consider certain special cases. *Econ. Notes*, Apr. 1986, (1), pp. 167-78. University of London.

Wulwick, Nancy J.—The Phillips Curve: Which? Whose? To Do What? How?

Often we read in the press that "economists disagree." Indeed, the title of this essay points to discord. There are several Phillips curves which represent an inverse relation between inflation and unemployment. Applying the methodology of scientific research programs, this essay analyzes why economists have focused on the Phillips relation and explains how competition between economists has led to development of different Phillips models. The approach is historical while the concern is economic methodology. The conclusion contrasts the importance of competing models in economics with that in mathematics and the natural sciences. *Southern Econ. J.*, Apr. 1987, 53(4), pp. 834-57. LeMoyne College.

024 Welfare Theory

Berrebi, Z. M. and Silber, Jacques G.—Dispersion, Asymmetry and the Gini Index of Inequality

The paper shows that the value of the Gini Index of Inequality (Concentration) depends on

the skewness of the income distribution. It first proved that the Gini Index belongs to the family of relative mean deviations. Then a new asymmetry index is defined which allows one to show that the Gini Index of symmetric distributions is always smaller or equal to one-half whereas a necessary condition for the Gini Index to be greater than one-half is that the distribution be skewed to the right. *Int. Econ. Rev.* June 1987, 28(2), pp. 331-38. Bar-Ilan University, Israel.

Buchanan, James M.—Towards the Simple Economics of Natural Liberty: An Exploratory Analysis

Individuals with legally protected endowments have incentives to allow maximal liberties of purchase or sale to persons on the opposing sides of potential trades. Unless overtly restricted, potential buyers and sellers will be allowed freedom of entry into all markets, thereby insuring maximization of combined consumer and producer surplus or rent. Since liberty, as defined, is a valued but not a scarce good, it is optimally utilized when it is not valued at the margin. The relationship between liberty and rent is examined, and individuals have incentives to extend liberties to others as means of protecting their own rents. *Kyklos* 1987, 40(1), pp. 3-20. George Mason University.

Meyer, Margaret A. and Mookherjee, Dilip.—Incentives, Compensation, and Social Welfare

Alternative wage structures under conditions of moral hazard are analyzed from a social-welfare standpoint. It is argued that *ex post* equity judgements in an uncertainty context should incorporate a preference for "positive correlation" of utilities of different individuals. In the design of compensation schemes, this may give rise to a conflict between *ex post* equity objectives and the need to provide effort incentives: relative performance clauses in compensation schemes that are useful for providing incentives are undesirable from an *ex post* equity standpoint. *Rev. Econ. Stud.*, Apr. 1987, 54(2), pp. 209-26. St. John's College, Oxford and Stanford University; Stanford University.

Pyatt, Graham—Measuring Welfare, Poverty and Inequality

A class of poverty measures is identified, the members of which satisfy strong monotonicity and transfer conditions. These measures are closely related to indices of income inequality based on the notion of a mean-equivalent income. A restriction on the class of admissible measures allows poverty to be interpreted in terms of the loss in mean-equivalent income resulting from the fact that some people are poor. *Econ. J.*, June 1987, 97(386), pp. 459-67. University of Warwick.

Satchell, Stephen E.—Source and Subgroup Decomposition Inequalities for the Lorenz Curve

In this note, the author derives inequalities on the Lorenz curve of an aggregate income distribution in terms of the Lorenz curves of its constituent parts. These parts are made up of different income sources in one case and different groups in another. These inequalities are applied to the class of linear inequality measures to derive a further set of inequalities. The method of proof for the Lorenz inequalities is based on statistical arguments involving the use of asymptotic theory. *Int. Econ. Rev.*, June 1987, 28(2), pp. 323-29. Trinity College, Cambridge.

Tinari, Frank D.—Reducing Income Inequality Is Not the Only "Equitable" Fairness Criterion

Many allegations of "unfairness" in distributional policy are based predominantly on the criterion of income-inequality reduction. But a more equal income distribution is not the sole standard for judging distributional equity. Alternative equity criteria may or may not be consistent with that of reducing income inequality. After discussing the efficiency-equality tradeoff, this paper examines the tradeoffs existing among equity criteria. It applies four equity criteria to two public-policy issues to determine to what extent they may be judged "equitable," finding that steel-import tariffs fail most equity criteria, but eliminating the minimum wage for teenagers generates favorable equity effects. *Rev. Soc. Econ.*, Apr. 1987, 45(1), pp. 77-91. Seton Hall University.

025 Social Choice

Guttman, Joel M.—A Non-Cournot Model of Voluntary Collective Action

The interaction of selfish, rational actors in the provision of a public good is analyzed in an attempt to explain recent experimental findings as well as real-world cases of voluntary collective action. The model, which allows for more sophisticated behavior than that assumed by the conventional Cournot theory, predicts a higher level of collective action than that theory. The impacts of income effects and of the price elasticity of demand for the public good are given special emphasis. *Economica*, Feb. 1987, 54(213), pp. 1-19. Bar-Ilan University, Israel.

Mueller, Dennis C.—The Growth of Government: A Public Choice Perspective

The focus of this review is on explanations of government size that stem from the literature on public choice. The various explanations are grouped into five categories: (1) government as provider of public goods and eliminator of externalities; (2) government as redistributor of income and wealth; (3) interest groups; (4) the bureaucracy; and (5) fiscal illusion. These five explanations in turn reflect two opposing conceptualizations of the state: the citizen over the state, and the state over the citizen. Although no single explanation for government size is found to have overwhelming logical and empirical support, some merit is found in several public-choice arguments. *Int. Monet. Fund Staff Pap.*, Mar. 1987, 34(1), pp. 115-49. University of Maryland.

026 Economics of Uncertainty and Information; Game Theory and Bargaining Theory

Banks, Jeffrey S. and Sobel, Joel—Equilibrium Selection in Signaling Games

The authors introduce a new solution concept, divine equilibrium, which refines the set of sequential equilibria in signaling games by requiring that off-the-equilibrium-path beliefs satisfy an additional restriction. This restriction rules out implausible sequential equilibria in examples. Divine equilibria exist because a sequential equilibrium that fails to be divine cannot be in a stable component. The authors demonstrate through examples that the stable

component of signaling games is typically smaller than the set of divine equilibria and present a characterization of the set of stable outcomes in generic signaling games. *Econometrica*, May 1987, 55(3), pp. 647-64. Rochester University; University of California, San Diego.

Bernheim, B. Douglas; Peleg, Bezalel and Whinston, Michael D.—Coalition-Proof Nash Equilibria: Concepts

In an important class of "noncooperative" environments, it is natural to assume that players can freely discuss their strategies, but cannot make binding commitments. In such cases, any meaningful agreement between the players must be self-enforcing. Although the Nash best-response property is a necessary condition for self-enforceability, it is not sufficient—it is in general possible for coalitions to arrange plausible, mutually-beneficial deviations from Nash agreements. The authors provide a stronger definition of self-enforceability, and label the class of efficient self-enforcing agreements "coalition-proof." *J. Econ. Theory*, June 1987, 42(1), pp. 1-12. Stanford University; Hebrew University, Israel; Harvard University.

Bernheim, B. Douglas and Whinston, Michael D.—Coalition-Proof Nash Equilibria: Applications

In Bernheim, Peleg, and Whinston (1987), the authors proposed the notion of coalition-proof Nash equilibrium and perfectly coalition-proof Nash equilibrium as solution concepts for strategic environments in which players can freely discuss their strategies, but cannot make binding commitments. This paper undertakes applications to several economic problems, including the behavior of Cournot oligopolists, oligopolistic entry deterrence, cooperation in finite horizon games, and social-choice rule implementation. *J. Econ. Theory*, June 1987, 42(1), pp. 13-29. Stanford University; Harvard University.

Chatterjee, Kalyan and Samuelson, Larry—Bargaining with Two-Sided Incomplete Information: An Infinite Horizon Model with Alternating Offers

This paper examines an infinite-horizon bargaining model, incorporating two-sided incomplete information, uncertainty concerning the

potential gains from trade, an illumination of interesting qualitative bargaining issues, and plausible equilibria. These features have powerful implications. A Nash equilibrium exists, and is generically both unique and sequential. Comparative static implications of variations in the game's specifications are developed. The authors find that natural indications of bargaining strength emerge from the model, and establish the intuitive result that an increase in a player's relative bargaining strength makes that player more likely to capture the gains from bargaining. *Rev. Econ. Stud.*, Apr. 1987, 54(2), pp. 175-92. Pennsylvania State University.

Cheng, Hsueh-Cheng; Magill, Michael J. P. and Shafer, Wayne J.—Some Results on Comparative Statics under Uncertainty

This paper presents results on comparative statics for a class of decision problems under uncertainty. Necessary and sufficient conditions are derived for parameter changes and stochastically dominant shifts in the return in the two-asset portfolio problem. These results give conditions for the demand for money to be inversely related to the rate of interest. Further applications include the qualitative behavior of aggregate savings under uncertainty and the production decision of a firm facing price uncertainty. *Int. Econ. Rev.*, June 1987, 28(2), pp. 493-507. University of Southern California.

Cramton, Peter; Gibbons, Robert and Klemperer, Paul—Dissolving a Partnership Efficiently

Several partners jointly own an asset that may be traded among them. Each partner has a valuation for the asset. The valuations are known privately and drawn independently from a common probability distribution. The authors characterize the set of all incentive-compatible and interim individually-rational trading mechanisms, and give a simple necessary and sufficient condition for such mechanisms to dissolve the partnership *ex post* efficiently. A bidding game is constructed that achieves such dissolution whenever it is possible. Despite incomplete information about the valuation of the asset, a partnership can be dissolved *ex post* efficiently provided no single partner owns too large a share. *Econometrica*, May 1987, 55(3),

pp. 615-32. Yale University; Massachusetts Institute of Technology; St. Catherine's College, Oxford University.

Engers, Maxim—Signalling with Many Signals

This paper examines a market with asymmetric information where there are many signals available and where both the costs of signaling and the product value may depend on many privately known characteristics. Under a weak condition on the relationship between the marginal cost of increasing the signals and the product value, a separating set exists whereby the value of every seller's product is inferred from the seller's optimal choice of signals. The separating set constructed is Pareto dominant and corresponds to recently proposed equilibrium notions in signaling and screening models. *Econometrica*, May 1987, 55(3), pp. 663-74. University of Virginia.

Gal-Or, Esther—First Mover Disadvantages with Private Information

The author considers a leader-follower game with output quantities as strategies, so as to demonstrate the reduced advantages of the Stackleberg leader in a stochastic environment with private information. At the equilibrium, the strategy of the leader reveals to the follower information about the demand. In an attempt to signal low demand, the leader contracts his output. Nevertheless, unless the leader's information is infinitely noisy, the follower can always correctly infer his signal. The author finds a wide range of parameter values over which the follower is better-off compared to the leader. *Rev. Econ. Stud.*, Apr. 1987, 54(2), pp. 279-92. University of Pittsburgh and Technion-Israel Institute of Technology.

Hagerty, Kathleen M. and Rogerson, William P.—Robust Trading Mechanisms

This paper considers the problem of designing a trading institution for a single buyer and seller when their valuation of the good is private information. It is shown that posted-price mechanisms are essentially the only mechanisms such that each trader has a dominant strategy. A posted-price mechanism is one where a price is posted in advance and trade occurs if, and only if, all traders agree to trade.

J. Econ. Theory, June 1987, 42(1), pp. 94-107. Northwestern University.

Nalebuff, Barry and Scharfstein, David—Testing in Models of Asymmetric Information

This paper explores the role of testing in models of asymmetric information. The authors demonstrate conditions under which testing for underlying characteristics can overcome adverse selection problems and lead to a full-information competitive equilibrium. This paper provides a more general statement of J. Mirrlees's result on the optimal use of infinite fines. Where testing cannot fully resolve the problems associated with asymmetric information, the authors outline the source of the difficulties. In problems with asymmetric information, testing to discover an agent's chosen action or underlying characteristics may significantly reduce the cost of moral hazard and adverse selection. *Rev. Econ. Stud.*, Apr. 1987, 54(2), pp. 265-77. Princeton University; Harvard University.

Palfrey, Thomas R. and Srivastava, Sanjay—On Bayesian Implementable Allocations

This paper identifies several social-choice correspondences which are or are not fully implementable in economic environments when agents are incompletely informed about the environment. The authors show that in contrast to results in the case of complete information, neither efficient allocations nor core allocations define implementable social-choice correspondences. The authors also identify conditions under which the Rational Expectations Equilibrium correspondence is implementable. The authors extend the concepts of fair allocations and Lindahl allocations to economies with incomplete information, and show that envy-free allocation and Lindahl allocations are implementable under some conditions while fair allocations are not. *Rev. Econ. Stud.*, Apr 1987, 54(2), pp. 193-208. California Institute of Technology; Carnegie-Mellon University.

Thomson, William—Monotonicity of Bargaining Solutions with Respect to the Disagreement Point

The author investigates whether the best known solutions to the bargaining problem respond appropriately to certain changes in the

disagreement point d_i for a fixed feasible set. If d_i increases, while for each $j \neq i$, d_j remains constant, then these solutions recommend an increase in agent i 's payoff, in agreement with intuition. However, the stronger requirement that agent i be the only one to gain is not generally met. *J. Econ. Theory*, June 1987, 42(1), pp. 50-58. University of Rochester.

Wooders, Myrna Holtz and Zame, William R.—Large Games; Fair and Stable Outcomes

The authors establish that for a broad class of large games with sidepayments, fair outcomes are nearly stable. More precisely, the Shapley value of a large game is in the ϵ -core and ϵ is very small if the game is very large. The proof uses two other results of independent interest: for large games the power of improvement is concentrated in small coalitions; and the Shapley value of a small syndicate acting together is nearly the sum of the Shapley values which accrue to the members acting alone. *J. Econ. Theory*, June 1987, 42(1), pp. 59-93. University of Toronto; State University of New York, Buffalo.

027 Economics of Centrally Planned Economies
Bonin, John P. and Fukuda, Wataru—Controlling a Risk-Averse, Effort-Selecting Manager in the Soviet Incentive Model

In this paper the authors establish the robustness of the comparative static results under managerial risk aversion and discretionary behavior for the Bonin- and Weitzman-type Soviet incentive schemes. Specifically, they show that the self-imposed target (forecasted performance) responds appropriately to changes in the penalty piecerates, and that the share parameter can be used to encourage a higher norm and an accompanying higher level of managerial effort. The results correct an error in the literature on the Bonin-type scheme and impose weaker conditions than previous work on the Weitzman-type scheme. *J. Compar. Econ.*, June 1987, 11(2), pp. 221-33. Wesleyan University; Kobe University, Japan.

Darvish, Tikva and Kahana, Nava—the Ratchet Principle: A Diagrammatic Interpretation

Using a two-period graphic model, it is shown that the Soviet fixed-incentive scheme does not

function, even under conditions of certainty. Allowing the incentive coefficient to change over time will not necessarily induce the manager to work efficiently. Only when the target is feasible for both periods will a flexible incentive scheme function. *J. Compar. Econ.*, June 1987, 11(2), pp. 245-49. Bar-Ilan University.

Galasi, Péter and Kertesi, Gábor—Second Economy, Competition, Inflation

In recent years, the legal frameworks of the second economy have been considerably expanded. It had been expected that the supply of consumer goods and services would grow, their quality improve, their range of choice expand, and the intensity of shortage diminish. The results are lagging behind the expectations because a sort of monopolistic structure still characterizes the Hungarian market. The state sector and the second economy divide the market between themselves so that there is no real competition between them. *Acta Oecon.*, 1985, 35(3-4), pp. 269-93. Karl Marx University of Economics, Budapest; Institute of Economics, Hungarian Academy of Sciences, Budapest.

Grosfeld, Irena—Modeling Planners' Investment Behavior: Poland, 1956-1981

Planners' investment decisions, usually taken as exogenous, are estimated in this paper by the maximum-likelihood method with threshold effects. Planners look for a macroeconomic equilibrium and are sensitive to information about internal and external pressures, but their adjustment is not smooth; they react to disequilibrium indicators only after the imbalances go beyond some threshold. So long as the tensions are "weak," planners are inclined to ignore them and planners' behavior is guided by simple rules of thumb. Estimated threshold values separate different regimes of planners' behavior. *J. Compar. Econ.*, June 1987, 11(2), pp. 180-91. Centre National de la Recherche Scientifique, Centre d'Economie Quantitative et Comparative, Paris.

Nuti, D. M.—Michal Kalecki's Contribution to the Theory and Practice of Socialist Planning

Four main contributions are singled out and discussed: a comprehensive model of organization alternative to both the Soviet and Oskar

Lange's models, with mark-up pricing related to the needs of investment finance, quantity adjustments, net value indicators, full employment, and workers' control; a theorization of external and political limits to planners' accumulation policy; rationalization of Soviet-type investment selection practice, with multiple but similar shadow interest rates governing technical choice but not the path of expansion; and a practical procedure for drawing perspective plans for investment and long-run development. These contributions are shown to be related to Polish conditions in the 1960s and to require qualifications which reduce their generality but not their relevance either there and then or elsewhere today. *Cambridge J. Econ.*, Dec. 1986, 10(4), pp. 333-53. European University Institute, Florence, Italy.

Oxenstierna, Susanne—Bonuses, Factor Demand, and Technical Efficiency in the Soviet Enterprise

The implications of successive changes in bonus rules which have taken place between 1965 and 1986 on the input choices of the Soviet enterprise are explored under the assumption that enterprises maximize their bonus funds. The results show increasing concern about labor saving during the 1970s and 1980s as compared with the capital-saving schemes introduced in the mid-1960s. The bonus schemes presented for the second half of the 1980s induced the enterprise to use factors in efficient combinations. *J. Compar. Econ.*, June 1987, 11(2), pp. 234-44. Swedish Institute for Social Research, University of Stockholm.

Podkaminer, Leon—Investment Cycles in Centrally Planned Economies: An Explanation Involving Consumer Market Disequilibrium and Labour Shortage

The investment expansions, which are to some extent caused by the authorities' preference for full employment, accelerate the deterioration in the consumer-market situation. There are five mutually reinforcing mechanisms which transform market disequilibria into a declining quantity and quality of work performed by consumers. The ensuing acute shortage of labor finally paralyzes the investment expansions. At the same time it dispels authorities'

anxiety about future unemployment. To avoid instability a much more flexible wage and price policy is needed. *Acta Oecon.*, 1985, 35(1-2), pp. 133-44. Presidential Office of All-Polish Confederation of Trade Unions, Warsaw.

Wanless, P. T.—The Efficiency of Central Planning: A Perspective from 'Markets vs Hierarchies'

Central planning of "socialist economies" is one form of nonmarket allocation of resources. Under certain circumstances, nonmarket allocation is more efficient than market allocation, largely because of the transaction costs of market contracting. The new institutional economics "markets vs. hierarchies" makes the case for the efficiency advantages of nonmarket resource allocation within firms by means of corporate planning. Similar advantages can be claimed for central planning, while economic reform of centrally-planned economies can be explained as organizational change, particularly the transition from the "U-form" to "M-form" corporation. *Scot. J. Polit. Econ.*, Feb. 1987, 34(1), pp. 52-68. Paisley College of Technology, United Kingdom.

Zalai, Ernő—Joint Production and Labour Values

In the case of joint production the inputs cannot be divided between products in a natural way. As a result, none of the three alternative definitions given by Karl Marx for labor values can generally be applied in this case. This means that the definition of labor values has to be generalized. Any such generalization will contradict some of the original Marxian notions. However, a solution which relies on a price-dependent division of inputs between products is closest to the general spirit of the Marxian analysis. *Acta Oecon.*, 1985, 35(3-4), pp. 327-36. Karl Marx University of Economics, Budapest.

830 HISTORY OF ECONOMIC THOUGHT; METHODOLOGY

831 History of Economic Thought

Burgstaller, André—Demand and Relative Price in Ricardo: An Examination of Outstanding Issues

The role of demand in David Ricardo's corn model is reexamined, with a view to resolving the conflict between labor-theory-of-value and general-equilibrium approaches to its interpretation. Four propositions regarding the relationship between demand and market, natural, momentary, and stationary-state price are rigorously established within a framework identical to L. Pasinetti (1960) in every respect but one: unlike Pasinetti's, the model at hand renders parametrically explicit the landlord consumption decision as between wage goods and luxuries. *Hist. Polit. Econ.*, Summer 1987, 19(2), pp. 207-15. Barnard College, Columbia University.

Craver, Earlene and Leijonhufvud, Axel—Economics in America: The Continental Influence

A large number of European economists of distinction immigrated to the United States between the World Wars. A number of them made notable contributions to the development of the field of econometrics. In this paper presented at the 1985 AEA meetings, the authors discuss the connections between Germany and the United States prior to the emigration and suggest some ways in which there had been a cross-fertilization of ideas. *Hist. Polit. Econ.*, Summer 1987, 19(2), pp. 173-82. University of California, Los Angeles.

Jensen, Hans E.—Alfred Marshall as a Social Economist

The paper argues that Marshall was a social economist since he operated with the following: (1) a body of ethics and a vision of the future good society; (2) a concept of a poverty-plagued economic reality; (3) a model of this reality; (4) analytic tools designed to explain and predict the behavior of the model; (5) an analysis, using the tools, of such behavior; and (6) analysis-based proposals for reforms to eradicate poverty and reduce inequality. Dealing primarily with topics (1), (2), and (6), the article inquires into the origins and nature of Marshall's ethics, vision, concept of reality, and recommendations for reforms so radical that he labeled himself a "socialist." *Rev. Soc. Econ.*, Apr. 1987, 45(1), pp. 14-36. University of Tennessee.

Kleiman, Ephraim—Opportunity Cost, Human Capital, and Some Related Economic Concepts in Talmudic Literature

The substitution of the retributive justice of the Old Testament by a code of material compensations gave rise to attempts to decompose the effects of injury into its different components, to be compensated for separately. The discussion in the Talmud of these concepts and of the manner in which they could be estimated provides us with a view of the Tannaitic and the Amoraic conceptualization of such basic economic notions as opportunity costs, human capital, transitory and permanent income changes, and stock and flow concepts. Their consideration of compensations for pain has much in common with modern welfare analysis. Underlying the Talmudic debate is the reliance on markets to provide measures of value based on actual opportunity costs. *Hist. Polit. Econ.*, Summer 1987, 19(2), pp. 261-87. Hebrew University, Jerusalem.

Littleboy, Bruce and Mehta, Ghanshyam—Patinkin on Keynes' Theory of Effective Demand

This paper argues that Keynes's theory of effective demand in the *Treatise* is more advanced and systematic than Don Patinkin is prepared to accept. It criticizes aspects of Patinkin's arguments which have the effect of underestimating the force of Keynes's attack on the classicals in the *Treatise*. *Hist. Polit. Econ.*, Summer 1987, 19(2), pp. 311-28. University of Queensland, Australia.

Petrella, Frank—Daniel Raymond, Adam Smith, and Classical Growth Theory: An Inquiry into the Nature and Causes of the Wealth of America

Although Raymond was viewed as a non-laissez-faire interventionist, his early nineteenth century *Elements of Political Economy* was compatible with Smith's *Wealth of Nations*, especially Smith's theory of economic growth and development. Raymond's attempt to develop a uniquely American theory of political economy was unsuccessful. However, his growth theory and moderate view of government activity were rooted in important hard-core assumptions of the classical research program, notably

at economic self-interest motivated rational decision making and that market competition maximized economic welfare given the proper constitutional framework. *Hist. Polit. Econ.*, Summer 1987, 19(2), pp. 239-60. Holy Cross College.

wer, Simon—The Origins of the Heckscher-Ohlin Concept

This article examines the origins of the Heckscher-Ohlin concept, i.e., the proposition that countries tend to export commodities requiring relatively large amounts of their relatively abundant factors of production and import commodities requiring relatively large amounts of their relatively scarce factors of production. A major contention of the article is at the discussion of historical antecedents by Ohlin (1933) and later commentators is somewhat misleading in the sense that the Heckscher-Ohlin concept is possessed of a far richer and richer intellectual heritage. *Hist. Polit. Econ.*, Summer 1987, 19(2), pp. 289-98. University of Regina, Canada.

Allen, John M.—Lord Grenville's Manuscript Notes on Malthus

A copy of T. R. Malthus's *Principles of Political Economy* (1820), now held in the Kashnor collection of the National Library of Australia, contains extensive annotations by William Wyndham Grenville (1759-1834). Grenville was a prominent figure in English political life, and his parliamentary speeches and several published pamphlets show that he was an astute commentator on practical policy issues. But these manuscript notes reveal that he also possessed considerable competence in the current theoretical controversies of political economy. They contain some incisive criticisms of Malthus's views and make some theoretical contributions significant in their own right. *Hist. Polit. Econ.*, Summer 1987, 19(2), pp. 217-37. University of New England, Armidale, Australia.

Ordóñez Braun, Carlos—Capital's Last Chapter

This article challenges the widespread view according to which Karl Marx deliberately

changed the order of *Capital's* first volume. Achille Loria and Maximilien Rubel have argued that Marx, in order to avoid censorship, invented an arbitrary "last" chapter on colonization; the real conclusive chapter, consequently, was the preceding and much more revolutionary one, dealing with primitive accumulation. This article explores Marx's opinion on colonies in *Capital* and defends the original order of chapters in the book. *Hist. Polit. Econ.*, Summer 1987, 19(2), pp. 299-310. Facultad de Ciencias Económicas y Empresariales, Universidad Complutense, Madrid, Spain.

Rutherford, Robert P.—Malthus and Keynes

Keynes claimed Malthus as a forerunner. Most commentators have argued that he was mistaken. However, the comparison has been unduly concentrated on Keynes's *General Theory*. The chronology of the claims Keynes made for Malthus suggests that we examine other sources, especially the *Treatise on Money*. It is argued that Malthus's analysis of the post-Napoleonic depression corresponds to the depression process in Keynes's *Treatise* and that there is an essential similarity of conception over the role of the rate of profit and the way changes in income distribution can result in a failure of effective demand. *Oxford Econ. Pap.*, Mar. 1987, 39(1), pp. 175-89. University of Tasmania, Australia.

Rutherford, Robert P.—Ricardo's Mantle

This paper analyzes the recent debate over Ricardian economics and assesses its implications for both the history of thought and modern economics. It is argued that "Ricardo's Mantle" is worth fighting for because lineages in ideas form the implicit bedrock of assumptions which condition the framing of explicit models. The methodological chasms involved in interpretation are explored by developing skeletal versions of the traditional model and S. Hollander's "new view." The importance ascribed to the Corn Laws debate in forming Ricardo's system is seen to be central and Hollander's unfamiliar Ricardo is argued to rest on a methodological revolution in interpretation. *Australian Econ. Pap.*, Dec. 1986, 25(47), pp. 306-21. University of Tasmania, Australia.

Solow, Robert M.—What Do We Know that Francis Amasa Walker Didn't?

This article uses Walker's text *Political economy* as a vehicle for a brief discussion of changes in orientation, factual knowledge, and technique in the century since its publication. Walker's clear-headed emphasis on the fundamentals of supply and demand is worth special mention. *Hist. Polit. Econ.*, Summer 1987, 19(2), pp. 183–89. Massachusetts Institute of Technology.

Taurand, Francis and Hung, Nguyen Manh—Pitfalls in a Received Idea: Ricardian Decreasing Returns at the Extensive Margin of a Natural Resource

The Ricardian theory of constantly decreasing returns on additional units of a self-renewable resource states that "best resources are used first, except for location and technical change." Using modern economic theory, the authors show this result to be an unfounded prejudice. Their model of the original Ricardian land problem easily displays initial increasing returns, thus solving a 150-year-old empirical puzzle, H. Carey's paradox of switches in historical land use patterns. The Ricardian result may be empirically correct in specific cases but cannot claim general theoretical validity. *Can. J. Econ.*, Feb. 1987, 20(1), pp. 61–73. Université Laval, Montreal.

Walker, Donald A.—Why Keynes's "General Theory" was a Success

This essay identifies the reasons for the success of Keynes's *General Theory* during the four or five years after its publication. The reasons are not difficult to discern in the records of the 1930s, so the justification for this essay is that in it the reasons are collected together, formulated clearly, classified into groups, and documented by the words of Keynes's contemporaries. The reasons include Keynes's reputation and activities, the book's theoretical content, its relevance for policy, its relationship to national income accounting and econometrics, its stylistic brilliance, and its incorporation of detailed knowledge of economic institutions and business practices. *Econ. Notes*, 1986, (3), pp. 5–29. Indiana University of Pennsylvania.

Waterman, A. M. C.—On the Malthusian Theory of Long Swings

In Robert Malthus's *Essay on Population* economic growth consists of alternating surges of population (during which real wages fall and the rate of profit rises) and capital (during which the reverse occurs). A series of temporary equilibria exists at which wages are maximal, the rate of profit minimal, and fully-employed work force in technically-determined relation to fixed capital stock. Between these equilibria occur episodes of excess labor, below-maximum wages, above minimum profit rate and capital accumulation. Malthus's "ratios" presuppose a logarithmic production function which implies that the full-employment real wage will fall to subsistence, and that the full-employment "wages fund" is constant. *Can. J. Econ.*, May 1987, 20(2), pp. 257–70. Robinson College, Cambridge, England.

036 Economic Methodology

Finn, Daniel Rush—When Are Economic Explanations Persuasive? A View from Social Economics

This essay employs three basic concepts, the ground of explanation, the mode of explanation, and the canons of evidence, to analyze the shifting understanding in economic thought of what makes for good economic explanations. It finds John Stuart Mill differing from the historical, Marxian, and institutional schools more on the ground of explanation (part vs. whole) than on the mode of explanation (inductive vs. deduction). Mill also admitted nonempirical evidence in his canons of evidence, while institutionalism pressed for more empirical work. Contemporary neoclassicism retains Mill's part as ground of explanation, is ambiguous on induction vs. deduction, and rejects all nonempirical evidence. *Rev. Soc. Econ.*, Apr. 1987, 45(1), pp. 1–13. St. John's University, Collegeville, Minnesota.

040 ECONOMIC HISTORY

042 Economic History: United States and Canada
Altman, Morris—A Revision of Canadian Economic Growth: 1870–1910 (A Challenge to the Gradualist Interpretation)

The author presents revised estimates of real gross manufacturing output and growth. Also.

for the first time, estimates are presented for real value added: (1) in manufacturing; (2) per capita; and (3) per employee in manufacturing, and their corresponding growth rates. These estimates involve the use of existing price indices and new ones constructed for this study. Details on the construction of these indices and output estimates are also presented. The results of this paper refute the received view that Canada's manufacturing sector sustained steady and relatively vigorous growth over the period 1870-1910. Findings suggest that the growth performance of Canada's manufacturing sector became substantive only at the turn of the twentieth century with the arrival of the wheat boom. *Can. J. Econ.*, Feb. 1987, 20(1), pp. 86-113. University of Ottawa.

Mullineaux, Donald J.—Competitive Monies and the Suffolk Bank System: A Contractual Perspective

This paper analyzes the Suffolk Bank System (1824-1858) as a contractual mechanism for controlling the quality of privately-produced monies (bank notes) in New England. The contractual aspects of the system, such as incentives, monitoring activities, and control procedures, are interpreted as a franchise-like device providing a trademark for monies. The end of the Suffolk System is viewed as a private response to competition involving a contractually inferior mechanism (The Bank for Mutual Redemption). The paper concludes that historical evidence suggests some form of hierarchical control is necessary for viable money production. *Southern Econ. J.*, Apr. 1987, 53(4), pp. 884-98. University of Kentucky.

044 Economic History: Europe

Broadberry, Stephen N.—Purchasing Power Parity and the Pound-Dollar Rate in the 1930s

Opponents of flexible exchange rates have stressed their volatility during the 1930s, while advocates of flexible exchange rates have stressed their relationship to fundamental economic variables. The author reconciles the two views, allowing that although exchange rates did move to preserve purchasing power parity in the long run, there could be substantial deviations from purchasing power parity in the short

run. For the pound-dollar rate, the source of the large fluctuations in the early 1930s lay in the asymmetric response of foreign-exchange markets to fluctuations in Britain and America while the latter adhered to the gold standard. *Economica*, Feb. 1987, 54(213), pp. 69-78. University College, Cardiff, United Kingdom.

050 ECONOMIC SYSTEMS

051 Capitalist Economic Systems

Blanchflower, David G. and Oswald, Andrew J.—Profit Sharing—Can It Work?

The paper surveys the theoretical and empirical literature on the economic effects of profit sharing between workers and firms. It is critical of the case for government subsidization of such sharing schemes. *Oxford Econ. Pap.*, Mar. 1987, 39(1), pp. 1-19. University of Surrey; London School of Economics.

Dandekar, Vinayak M.—Economies as Differentiated Systems

A new model is constructed admitting certain elements of von Neumann and Sraffa models while rejecting others. Enterprises are characterized by given technology and also by given activity levels. Prices are determined to maximize ratios of net output to input. No positive prices can equalize these ratios. Distribution of net output is internal to each enterprise and resulting rents, profits, and wages are not necessarily equal between enterprises. There are subeconomies, some independent producing all their inputs, others dependent for some inputs on other subeconomies. The subeconomies trade in intermediate and final consumption goods in which some gain while others lose. *J. Econ. Issues*, June 1987, 21(2), pp. 813-25. Indian School of Political Economy.

052 Socialist and Communist Economic Systems

Dietrich, Michael—Organisational Requirements of a Socialist Economy: Theoretical and Practical Suggestions

This article argues that theoretical and practical difficulties exist in the socialist economic organization literature and suggests how the problems can be overcome. In uncertain, non-steady-state conditions, any economy is an amalgam of control systems. Planning, informal, autonomous, and instrumental systems are

identified in the paper via a critique of Walrasian theory. Practical suggestions apply developments in corporate planning, particularly strategic business units. This allows socialist economic organization efficiency to marry strategic and operating matters. The importance of informal economic relationships is also stressed. *Cambridge J. Econ.*, Dec. 1986, 10(4), pp. 319-32. Brighton Polytechnic, United Kingdom.

Szamuely, László—Prospects of Economic Reforms in the European CMEA Countries in the 80s

Both the compelling need for change in the system of economic control and the perception of its necessity by the political and economic leadership are present today in the majority of the European socialist countries. And yet the 1980s have not become a decade of reforms, since the impending economic crisis could only be averted by emergency manoeuvres which were carried out by strictly centralized measures. Another reason for the delay was the fact that the society, and first and foremost its leading strata, attach very high value to stability. *Acta Oecon.*, 1986, 36(1-2), pp. 55-65. Institute for World Economics, Hungarian Academy of Sciences, Budapest.

Tardos, Márton—The Conditions of Developing a Regulated Market

The Hungarian experience proves that commodity markets cannot be operated alone in an economy without labor, money, and capital markets. The creation of the latter does not conflict with the state control of economy, since there is a great need for a strict aggregate demand policy. A more efficient utilization of the market than the present one requires a more fundamental change in the traditional control methods of the socialist economy than the one offered by the current modifications in Hungary. *Acta Oecon.*, 1986, 36(1-2), pp. 67-89. Institute of Economics, Hungarian Academy of Sciences, Budapest.

653 Comparative Economic Systems

Boyd, Michael L.—The Performance of Private and Cooperative Socialist Organization: Post-war Yugoslav Agriculture

Socialist enterprises in Yugoslav agriculture show higher levels of productivity than private producers. The author examines the sources of these differences with total factor productivity estimates based on sectoral aggregate Cobb-Douglas production functions which permit separation of environmental, policy, and organizational effects. The results support the following conclusions: cooperative socialist enterprises are not inherently inefficient and can even outperform private producers; both types of producers were responding to their environment and their differential rates of technological change reflect the different constraints they faced; and socialist enterprises exhibited technology adoption behavior similar to nonsocialist enterprises elsewhere. *Rev. Econ. Statist.*, May 1987, 69(2), pp. 205-14. University of Vermont.

100 Economic Growth; Development; Planning; Fluctuations

110 ECONOMIC GROWTH; DEVELOPMENT; AND PLANNING THEORY AND POLICY

111 Economic Growth Theory and Models

Bernheim, B. Douglas and Ray, Debraj—Economic Growth with Intergenerational Altruism

The authors consider the properties of equilibrium behavior in an aggregative growth model with intergenerational altruism. Various positive properties such as the cyclicity of equilibrium programs and the convergence of equilibrium stocks to a steady state, are analyzed. Among other normative properties, it is established that under certain natural conditions Nash equilibrium programs are efficient and "modified Pareto optimal" in a sense made clear in the paper, but never Pareto optimal in the traditional sense. *Rev. Econ. Stud.*, Apr. 1987, 54(2), pp. 227-41. Stanford University.

Bidard, Christian and Hosoda, Eiji—On Consumption Baskets in a Generalized von Neumann Model

The paper generalizes the von Neuman growth model extended by M. Morishima. Morishima introduced capitalists' consumption and workers' savings into the model. But his proof of the existence of the balanced-growth equilibrium crucially depends upon the as-

on that every good must be in consumption baskets for some price level. In other he assumed that there is no distinction in capital goods and consumption goods. own that the model has a solution even assumption is relaxed. A variant of Galeo-Debreu lemma is used to prove the results. *Int. Econ. Rev.*, June 1987, 28(2), 1-19. Nanterre University, France; Keio University, Tokyo.

Economic Planning Theory and Policy

gi, Lajos—The Seventh Five-Year Plan for the Hungarian Economy (for 1986-1990) The Hungarian economy has in recent years exhausted the possibilities which the need of curbing the domestic use of national resources is in the interest of improving equilibrium. The main endeavour of the plan is to accelerate the modernization of the economy by relying on ever better performance; to stimulate economic growth gradually; to improve living standards. The inevitable structural changes will affect a substantial part of the population in the interest of whom the social security has to be strengthened. *Econ. J.*, 1986, 36(1-2), pp. 3-19. National Planning Office, Budapest.

János—Alternatives of Growth and Priorities in the 7th Five-Year Plan of Hungary (1986-1990)

rate of growth of the Hungarian economy is to surpass the threshold of perceptibility in the years 1986-1990 if the general equilibrium—including that of the balance-of-payments—is restored. The principal targets of the 7th plan are the following: energy consumption is allowed to grow only at an essential rate lower than national income; exports in convertible currencies have to be expanded; foreign trade settled in roubles has to be boosted; and the efficiency of production has to be definitely strengthened by modernization of the product pattern. *Acta Econ.*, 1985, 1, pp. 17-28. National Planning Office, Budapest.

Rezső—National Economic Objectives and the Reform Process in Hungary in the 1980s

The three priorities in economic policy for the period between 1986-1990 are: the maintenance and consolidation of the external equilibrium; further expansion of enterprise autonomy and the implementation of a market-conform government control; and resumption of economic growth as a consequence of improved external competitiveness of Hungarian goods. To achieve these objectives a consistent theoretical framework has to be elaborated. The further development of the system of political institutions and the adjustment of the style of politics to the logic of the economic system are also essential. *Acta Oecon.*, 1985, 35(1-2), pp. 1-16. Institute of Economics, Hungarian Academy of Sciences, Budapest.

114 Economics of War, Defense, and Disarmament

Jackson, M. W.—Chocolate-Box Soldiers: A Critique of 'An Economic Theory of Military Tactics'

The purpose of this article is to challenge Geoffrey Brennan and Gordon Tullock's 1982 application of methodological individualism to battle. The author's thesis is that methodological individualism distorts the social nature of combat. To defend this thesis, first, he argues that the analysis of Brennan and Tullock assumes the very thing that is most in doubt in a battle, namely, that anyone is motivated to be killed or to kill. These motivations rest on the social ties of combatants to their comrades. Finally, a proper understanding of heroism illustrates the responsibility and sacrifice of battle neglected by Brennan and Tullock's analysis. *J. Econ. Behav. Organ.*, Mar. 1987, 8(1), pp. 1-11. The University of Sydney.

Nourzad, Farrokh—A Reexamination of the Effect of Rapid Military Spending on Inflation

The hypothesis that rapid defense buildup contributes to inflation recently has been rejected by Donald F. Vitallano (1984). In this paper, it is argued that this result is misleading, given that it is obtained under the implausible assumption of a constant expected real rate of interest. The hypothesis is reexamined using a well-known measure of the expected inflation rate, and it is found that growth of defense spending has a statistically-significant positive

effect on the rate of price inflation. *Quart. J. Bus. Econ.*, Summer 1987, 26(3), pp. 57-66. Marquette University.

120 COUNTRY STUDIES

122 Economic Studies of Developed Countries

van Gemert, Henk G.—Structural Change in OECD Countries: A Normal Pattern Analysis

This article discusses the development of sector shares against the background of growing per capita income and some other key variables. It elaborates on H. B. Chenery's normal pattern approach, which emphasizes the existence of regularities. Long-term dynamics in the economic structure are quantified. Conclusions are drawn with respect to the continuing process of industrialization, the role of the service sector, and the rise or decline of manufacturing subsectors. The slowdown of overall growth rates and the discovery of energy resources are given special attention. Finally, the article tries to detect some country-specific specialization patterns. *De Economist*, Mar. 1987, 135(1), pp. 29-51. Tilburg University, the Netherlands.

123 Comparative Studies of Developing, Developed, and/or Centrally Planned Economies

Rimler, Judit—Economic Obsolescence and Employment (A Comparative Analysis of the Hungarian and Dutch Economies)

The vintage-model analysis shows that industrial employment has changed in the Netherlands and in Hungary under the impact of different factors. The changes in staff in the Dutch industry have been motivated by efficiency viewpoints. Owing to rising labor costs the old vintages, engaging a relatively large amount of labor, have increasingly been substituted for by new ones. In Hungary the reason was the exhaustion of labor supply. *Acta Oecon.*, 1986, 36(1-2), pp. 123-40. Institute of Economics, Hungarian Academy of Sciences, Budapest.

124 Economic Studies of Centrally Planned Economies

Aganbegyan, A. G.—The New Economic Strategy of the USSR and Its Social Dimensions

The 1986 Congress of the Communist Party of the Soviet Union set a new course for national

economic and social policy. Reliance on extensive means of growth had been leading the economy into a blind alley; from now on the emphasis will be shifted to intensive means. The ambitious targets set for accelerating development over the next fifteen years are to be achieved through a radical reform of management, the strengthening of material incentives, and an overhaul of the economic machinery. The entire production apparatus is to be modernized and retooled to meet people's needs and ensure a new quality of growth. *Int. Lab. Rev.*, Jan-Feb. 1987, 126(1), pp. 95-109. U.S.S.R. Academy of Sciences.

Halpern, László and Molnár, György—Income Formation, Accumulation and Price Trends in Hungary in the 1970s

The difference between the accumulation structure of the Hungarian economy and the sectoral structure of the income financing accumulation was not diminishing during the 1970s. One of the basic causes of this development is that definite development preferences are observable in the resource allocating process. Industry, construction, and agriculture were unambiguously preferred, while the service sector was dispreferred in the whole period. Based on model computations, it can be stated that in the 1970s those branches were preferred which also secured the distributable income for redistribution. *Acta Oecon.*, 1985, 35(1-2), pp. 105-32. Institute of Economics, Hungarian Academy of Sciences, Budapest.

Illés, Iván—Structural Changes in the Hungarian Economy (1979-1985)

The structural shifts in the investments of the socialist sector, and within it particularly the central investments, are exactly opposite to the shifts in the income pattern of the national economy; this can be observed in the sectoral as well as in the regional structure. This phenomenon is only partly due to the normal compensation processes; the fact is that the central allocation of investment funds has been driven to forced paths. At the same time some balancing forces have gained ground: e.g. the diversification of enterprises and cooperatives, new forms of enterprises, and the households' investment activity. *Acta Oecon.*, 1986, 36(1-

), pp. 21-33. Institute of Economic Planning of the National Planning Office, Budapest.

etschnig, Mária—Causes and Difficulties in Changing the Normal State of the Hungarian Economy

The Hungarian economy has to answer the world economic challenge in the form of structural adjustment. Up to now no change has occurred in the normal state of economy that would have been guided by the reform programs; the regulatory powers of the economic system proved to be stronger than the intentions working for change. The basic feature of enterprise behavior has remained unaltered: the management pays attention first of all to the intentions of the government and not to the signals of the market. Resources are being allocated in the course of an invisible competition, and the economy is dominated by vertical relations. *Acta Oecon.*, 1985, 35(3-4), pp. 235-40. National Bank of Hungary, Budapest.

izakolczai, György; Bagdy, Gábor and Vincics, József—Dependence of the Hungarian Economic Performance on the World Economy. Facts and Economic Policy Inferences

This article, using in the first part simple graphs and in the second part econometric methods, shows that the development of the Hungarian economy depends on world economic events, and that all important domestic variables are directly influenced by the import index of Hungary's main Western trading partners. Hungary's economic behavior is therefore practically the same as that of other smaller open economies. It could also be demonstrated that only imports can be influenced by macroeconomic-demand policy, while exports can only be promoted by policies concentrating on the microeconomic aspects of the firms' behavior. *Acta Oecon.*, 1985, 35(3-4), pp. 295-311. Econometric Laboratory at the Institute of Economics, Hungarian Academy of Sciences, Budapest; Institute for Industrial Economics, Budapest; National Planning Office, Budapest.

130 ECONOMIC FLUCTUATIONS; FORECASTING; STABILIZATION; AND INFLATION

31 Economic Fluctuations

McCallum, Bennett T.—On "Real" and "Sticky-Price" Theories of the Business Cycle

This paper begins by identifying the distinguishing characteristic of the "real-business-cycle" class of macroeconomic models. It then scrutinizes existing evidence, presented in support of the real-business-cycle approach, of three types: calibrated general-equilibrium models with no monetary sector; vector-autoregression variance decomposition results; and univariate measurements of trend and cyclical components. It is argued that, in fact, these types of evidence have so far provided little support for the real-business-cycle hypothesis. Finally, with regard to an important alternative hypothesis concerning macroeconomic fluctuations, the paper proposes a partial rationalization for the stickiness of nominal product prices. *J. Money, Credit, Banking*, Nov. 1986, 18(4), pp. 397-414. Carnegie-Mellon University.

Rohwer, Bernd—Der Konjunkturaufschwung 1983-1986—Ein Erfolg des wirtschaftspolitischen Kurswechsels der christlich-liberalen Koalition? Einige Anmerkungen zur konjunkturtheoretischen Beurteilung des gegenwärtigen Aufschwungs (The Business Revival 1983-1986 in West Germany—A Success of the CDU/CSU-FDP Coalition's Change of Policy?—Some Remarks on the Causes of the Present Business Upswing)

The paper presents some estimations concerning the influence of endogenous and exogenous factors on the business cycle. Although exogenous impulses (especially fiscal and monetary policy and foreign trade) have had considerable effects on the specific shape of the business cycle in the Federal Republic of Germany during 1963-83, the business fluctuations essentially have been the result of the interplay of destabilizing and stabilizing endogenous influences. For the actual business revival it is shown that the political change in October 1982 merely gave the psychological "initial spark." The upswing in 1984-85 was primarily produced by foreign-trade impulses, whereas the domestic-growth impulses remained comparatively subdued until 1986. *Konjunkturpolitik*, 1986, 32(6), pp. 325-48 (German). University Freiburg, Germany.

Roland, Gérard—Investment Growth Fluctuations in the Soviet Union: An Econometric Analysis

This paper investigates the determinants of overall investment growth in the Soviet Union by means of an econometric analysis using data for 1959–1982. Theory suggests that investment growth responds to structural pressures toward high growth and to the intensities of shortage in the economy. Econometric results are encouraging since the fitted variable follows, with the exception of 1966, all peaks and troughs of investment growth. *J. Compar. Econ.*, June 1987, 11(2), pp. 192–206. Free University of Brussels.

132 Forecasting: Econometric Models

Buchenroth, Sheree and Jennings, Robert—
A Descriptive Analysis of the Time Series Behavior of Financial Analyst Earnings Forecasts

This paper presents an empirical examination of quarterly changes in consensus analyst forecasts of annual earnings and the dispersion of the individual forecasts comprised by the consensus. The formation and revision of beliefs play a key role in many fundamental issues in finance. Investors' consensus beliefs are important in determining equilibrium prices and the dispersion of beliefs has been suggested as an *ex ante* measure of risk. Little is known about the time-series behavior of these variables. This study reports the results of an analysis of quarterly changes in these variables using a time series of forecasts beginning with a seven-quarter ahead forecast for a large sample of firms. The median quarterly change in consensus analyst forecast was found to be a series of small negative changes. Analyst forecast dispersion, when measured by the coefficient of variation instead of the across-analyst standard deviation, declines throughout the horizon. *Quart. J. Bus. Econ.*, Summer 1987, 26(3), pp. 22–41. Indiana University.

Haas, Richard D. and Masson, Paul R.—MINIMOD: Specification and Simulation Results

The paper presents a small macroeconomic model, MINIMOD, of the United States and its major industrial trading partners. The model is based on conventional theory, with particular attention paid to capital accumulation and long-run properties. MINIMOD's parameters were obtained by applying partial stimulation tech-

niques to a much larger multicountry model. The model is simulated under two alternative assumptions about how expectations of future inflation rates, long-term interest rates, and exchange rates are formed: expectations are either formed adaptively, based on past movements in the variables; or expectations are forward looking, based on the model's own predictions. *Int. Monet. Fund Staff Pap.*, Dec. 1986, 33(4), pp. 722–67. International Monetary Fund, Washington, D.C.

Hughes Hallett, Andrew J.—International Competitiveness and Economic Recovery: Examples of the Risk–Ambition Trade-Off in Dutch Economic Policies

The disadvantage of certainty-equivalent decisions is that they are invariant to risk. This paper contrasts certainty equivalence with risk-sensitive rules derived by combining the first two movements of a stochastic objective. Adjusting the weight in that combination traces out an uncertainty frontier, from risk neutrality to pure risk aversion. The inflation–output–wages trade-off is studied as a function of increasing risk aversion in Dutch policy making. Risks are reduced by preserving purchasing power (removing wage restraint) at the cost of output and the economy's international competitiveness. *Manchester Sch. Econ. Soc. Stud.*, Mar. 1987, 55(1), pp. 38–59. University of Newcastle-upon-Tyne.

Zarnowitz, Victor and Lambros, Louis A.—Consensus and Uncertainty in Economic Prediction

The authors define "consensus" as the degree of agreement among point predictions aimed at the same target by different individuals and "uncertainty" as the diffuseness of the corresponding probability distributions. This distinction is made operational with the aid of the NBER–ASA survey data on matched point and probabilistic forecasts of inflation and the rate of change in gross national product. The means of the two sets of forecasts agree closely. Standard deviations of point forecasts tend to understate uncertainty as measured by standard deviations of the predictive probability distributions. However, these measures of consensus and uncertainty are on the whole positively correlated. *J. Polit. Econ.*, June 1987, 95(3), pp.

591-621. University of Chicago and National Bureau of Economic Research.

133 General Outlook and Stabilization Theories and Policies

Gapinski, James H.—Capital Lessons in Leaning against the Wind

This paper examines how the nature of capital bears on the effectiveness of countercyclical policy. Underlying the inquiry is a macro model which postulates that capital in place differs from capital in design. It also postulates that fiscal and monetary actions follow asymmetric feedback rules keyed to unemployment. As the malleability or durability of capital lessens, the system is observed through simulation to respond more turbulently when disturbed. To moderate that response, feedback controls are altered in strength, and although they generally succeed in reducing system turbulence, their success rate is shown to depend heavily and complexly upon capital's makeup. *J. Money, Credit, Banking*, May 1987, 19(2), pp. 235-45. Florida State University.

van der Hoeven, Rolph—External Shocks and Stabilisation Policies: Spreading the Load

Many developing countries have been forced to adopt stabilization policies to cope with a series of external shocks which have adversely affected various macroeconomic indicators, including employment and income levels. Most of the policies have been applied too abruptly to take into account the specific circumstances of the countries concerned and their particular difficulties. Therefore, stabilization policies should: be made more selective; be spread over a longer period of time; and pay more heed to land redistribution and the satisfaction of basic needs for the poor so that the costs are shared more equitably and a firmer basis is laid for sustained growth. Greater consensus for the measures introduced also needs to be secured if they are to be successful. *Int. Lab. Rev.*, Mar.-Apr. 1987, 126(2), pp. 133-50. International Labour Office, Geneva.

Köves, András—Foreign Economic Equilibrium, Economic Development and Economic Policy in the CMEA Countries

The foreign debt burden of all the smaller European CMEA countries became critical by

the early 1980s. Some inevitable restrictions on imports have been introduced which have proven to be useful. Since the balance-of-payments tensions of most of these countries eased in the mid-1980s, there is now room for a revision and reorientation of their economic policy. Competitive imports have to be allowed to enter the domestic market which should become a lever in the process of differentiation taking place on the basis of efficiency criteria. This would lead to an increase in both the volume and the profitability of Hungarian exports in the longer run. *Acta Oecon.*, 1986, 36(1-2), pp. 35-53. Institute for Economic and Market Research, Budapest.

Montiel, Peter J.—Output and Unanticipated Money in the Dependent Economy Model

This paper builds a "new classical" model for a fixed exchange-rate economy based on the dependent economy framework, which has proved particularly fruitful for the analysis of macroeconomic issues in developing countries. The implied reduced-form output equations are quite different from their closed, one-sector counterparts. In particular, anticipated policy changes have real effects in this model, though these effects differ from those of unanticipated changes. These equations are estimated for Mexico for the fixed exchange-rate period 1953-75. The results cast some doubts on the relevance of new classical analysis for Mexico during this period. *Int. Monet. Fund Staff Pap.*, June 1987, 34(2), pp. 228-59. International Monetary Fund, Washington, D.C.

Tardos, Márton—Question Marks in Hungarian Fiscal and Monetary Policy (1979-1984)

In Hungary, the economic policy evens out the financial results of enterprises on three levels: through price control; the subsidies and levies of the state budget; and the credit mechanism. The mechanisms of income leveling after 1979 put a strong brake on the process of consolidation which became necessary in the wake of the international credit crisis. A lasting solution can only be expected from the abolition of investment and wage regulation and the imposition of a firm control of aggregate demand. This would exert a financial pressure on enterprises, forcing them to modernize their product

pattern, increase the efficiency of their production, and to dismiss superfluous labor. *Acta Oecon.*, 1985, 35(1-2), pp. 29-52. Institute of Economics, Hungarian Academy of Sciences, Budapest.

134 Inflation and Deflation

Buiter, Willem H.—A Fiscal Theory of Hyperdeflations? Some Surprising Monetarist Arithmetic

For the range of "small" government deficits for which two stationary solutions exist, an increase in the deficit reduces the long-run rate of inflation if the locally-stable (high inflation) stationary equilibrium is chosen, increases it if the locally-unstable (low inflation) equilibrium is chosen. Explosive, unstable behavior always involves a steadily increasing negative rate of inflation, i.e. a "hyperdeflation." There always exist deficits so large that stationary solutions do not exist. Behavior then is unstable and explosive: hyperinflations are ruled out and hyperdeflations must result. Empirical studies of hyperinflations should no longer use the rational-expectations version of the Sargent-Wallace model as a theoretical backdrop. *Oxford Econ. Pap.*, Mar. 1987, 39(1), pp. 111-18. Yale University.

200 Quantitative Economic Methods and Data

210 ECONOMETRIC, STATISTICAL, AND MATHEMATICAL METHODS AND MODELS

211 Econometric and Statistical Methods and Models

Anderson, G. J.—Prediction Tests in Limited Dependent Variable Models

This paper discusses the problem of assessing the predictive power of a model in the class of limited dependent variable models. The use of dummy variables in this context in standard regression models has been discussed in Salkever (1976), however problems emerge if such an approach is taken when the dummy appears in a limit of an integral that has to be evaluated. The paper proposes tests of predictive power which circumvent these problems. *J. Econometrics*, Jan./Feb. 1987, 34(1/2), pp. 253-61. McMaster University, Canada.

Blundell, Richard and Meghir, Costas—Bivariate Alternatives to the Tobit Model

In this paper the authors present two broad classes of bivariate models for the analysis of individual commodity demand and labor supply behavior. The unifying characteristic of both classes of models and the reason why they have been labeled "bivariate" is the definition of a separate process determining the zero-one discrete behavior from that determining the continuous observations. In each case the separate processes relax one of the strong assumptions underlying the standard Tobit model. Given the choice of bivariate model for each case, the authors consider a set of misspecification tests that are designed to check the adequacy of the stochastic structure underlying each model. The majority of these tests are based on the Score test or Lagrange Multiplier test methodology. *J. Econometrics*, Jan./Feb. 1987, 34(1/2), pp. 179-200. University College London.

Chamberlain, Gary—Asymptotic Efficiency in Estimation with Conditional Moment Restrictions

In this paper, bounds on asymptotic efficiency are derived for a class of non-parametric models. The data are independent and identically distributed according to some unknown distribution F . There is a given function of the data and a parameter. The restrictions are that a conditional expectation of this function is zero at some point in the parameter space; this point is to be estimated. If F is assumed to be a multinomial distribution with known (finite) support, then the problem becomes parametric and the bound can be obtained from the information matrix. This bound turns out to depend only upon certain conditional moments, and not upon the support of the distribution. Since a general F can be approximated by a multinomial distribution, the multinomial bound applies to the general case. *J. Econometrics*, Mar. 1987, 34(3), pp. 305-34. University of Wisconsin.

Chesher, Andrew and Irish, Margaret—Residual Analysis in the Grouped and Censored Normal Linear Model

Graphical and numerical analysis of residuals can be informative about model misspecification even when data are censored or grouped.

This paper provides simple procedures for calculating diagnostic statistics to detect model misspecification when grouped or censored data are analyzed using a normal linear model. Graphs can reveal the nature of the correlation that these statistics pick up, but when grouping or censoring is severe they can be difficult to interpret. The authors discuss the processing of graphs so that they are more easily interpreted and provide examples based on artificial data and on grouped data relating to unemployment durations. *J. Econometrics*, Jan./Feb. 1987, 34(1/2), pp. 33-61. Bristol University.

Clarke, Judith A.; Giles, David E. A. and Wallace, T. Dudley—Estimating the Error Variance in Regression after a Preliminary Test of Restrictions on the Coefficients

Maximum-likelihood estimation of the variance of the disturbances in a linear regression is considered in the context of exact linear restrictions on the coefficient vector. The exact risk function for the associated preliminary-test estimator of this variance is derived and evaluated numerically on the basis of relative quadratic loss. Results indicate that in practical situations the risk of the pretest estimator differs only slightly from that of the naive estimator which ignores the restrictions without testing. Applying the coefficient restrictions without testing their validity is not recommended. *J. Econometrics*, Mar. 1987, 34(3), pp. 293-304. Monash University; University of Canterbury; Duke University.

Cosslett, Stephen R.—Efficiency Bounds for Distribution-free Estimators of the Binary Choice and the Censored Regression Models

Lower bounds are derived for the asymptotic variances of regular distribution-free (or semiparametric) estimators of the parameters of the binary-choice model and the censored-regression (Tobit) model. A semiparametric estimator is one that does not require any assumption about the distribution of the stochastic error term in the model, apart from regularity conditions. Comparison of the bounds with the corresponding asymptotic Cramer-Rao bounds for the classical parametric problem shows the loss of information due to lack of *a priori* knowledge of the functional form of the error distribution.

Econometrica, May 1987, 55(3), pp. 559-86. University of Florida.

Duncan, Gregory M.—A Simplified Approach to *M*-Estimation with Application to Two-Stage Estimators

This paper presents a simple version of the theory of *M*-estimation. It is argued that the theory is immediately applicable to almost all estimation schemes employed by econometricians. It is further argued that the great overlooked benefit of the theory is that it provides almost automatic asymptotic results, e.g. probability limits and asymptotic covariances. Thus, one need not be a theoretical econometrician to invent and use specially tailored estimators. To illustrate its use the theory is applied to a variety of theoretical and applied problems. Particular attention is paid to two-step estimators. *J. Econometrics*, Mar. 1987, 34(3), pp. 373-89. Washington State University.

Florens, Jean-Pierre and Mouchart, Michel—Exhaustivité, ancillarité et identification en statistique bayésienne (Sufficiency, Ancillarity and Identification in Bayesian Statistics)

A Bayesian experiment is defined by a unique probability on the product of the parameter space and the sample space. This joint probability determines a conditional independence relation which is used for a symmetrical analysis of sufficiency and ancillarity on the parameter and the sample. Identification is then considered as a property of minimal sufficiency on the parameter space. These concepts are extended to conditional models and are shown to be suitable for a study of the exogeneity property in a coherent statistical framework. *Ann. Econ. Statist.*, Oct./Dec. 1986, (4), pp. 63-83 (French). EHESS and GREMAQ, University of Social Sciences, Toulouse; CORE, Catholic University of Louvain.

Gourieroux, Christian, et al.—Generalised Residuals

This paper proposes a definition of generalized residuals for a large class of nonlinear econometric models. These residuals are shown to have properties similar to those of the familiar residuals in the linear model and to be useful in many hypothesis testing problems. Gen-

thors are Alain Monfort, Eric Renault, and Alain Trognon. *J. Econometrics*, Jan./Feb. 1987, 34(1/2), pp. 5-32. CEPREMAP, Paris.

Gourieroux, Christian, et al.—Simulated Residuals

Models deduced from a latent regression model by a nonlinear mapping are considered in this article. This class of models contains some well known limited dependent variable models such as the tobit, the probit, and disequilibrium models. In this context, some simulated residuals are defined. Those residuals play the same role as the usual residuals in linear models. They can be used with the standard regression packages for diagnostic checks or genuine statistical tests. Coauthors are Alain Monfort, Eric Renault, and Alain Trognon. *J. Econometrics*, Jan./Feb. 1987, 34(1/2), pp. 201-52. CEPREMAP, Paris.

Hall, Alastair—The Information Matrix Test for the Linear Model

The author derives the information-matrix test, suggested by H. White (1982), for the normal fixed-regressor linear model, and shows that the statistic decomposes asymptotically into the sum of three independent quadratic forms. One of these is White's general test for heteroscedasticity and the remaining two components are quadratic forms in the third and fourth powers of the residuals respectively. The results show that the test will fail to detect serial correlation and never be asymptotically optimal against heteroskedasticity, skewness, and non-normal kurtosis. *Rev. Econ. Stud.*, Apr. 1987, 54(2), pp. 257-63. North Carolina State University.

Hausman, Jerry A. and Ruud, Paul A.—Specifying and Testing Econometric Models for Rank-ordered Data

The rank-ordered logit model is used as the basic specification for rank-ordered consumer choice data. Two specification tests are proposed for this specification. The first is a Hausman specification test for the independence from irrelevant alternatives hypothesis. The second test examines the possibility that the estimates of equivalent prices are consistent.

Two alternative estimators are also proposed. One generalizes the rank-ordered logit specification to allow for a form of heteroscedasticity that permits top-ranked choices to be more precisely ranked than bottom-ranked choices. The other estimator is an application of a weighted *M*-estimator that yields consistent equivalent prices estimators despite any misspecification of the distribution in the rank-ordered logit model. *J. Econometrics*, Jan./Feb. 1987, 34(1/2), pp. 83-104. Massachusetts Institute of Technology; University of California, Berkeley.

Hoffman, Dennis L.—Two-Step GLS Estimators in Multi-equation Generated Regressor Models

Despite the critical analysis of Pagan (1984) and several subsequent applied studies, empirical models characterized by expectations are often estimated with "generated regressor" proxies that are treated as ordinary nonstochastic regressors. This paper offers a Generalized Least Squares estimator designed to cope with the nonscalar disturbance matrix precipitated by generated regressors. The approach is designed as a natural extension of Pagan's analysis and the author demonstrates how it may be applied to multi-equation models. Experimentation with numerical examples reveals the potential severity of ignoring the problem. These results also suggest an easily calculated indicator of potential inference distortion in models that fail to account for "generated regressors." *Rev. Econ. Statist.*, May 1987, 69(2), pp. 336-46. Arizona State University.

Klepper, Steven and Stapleton, David C.—Consistent Sets of Estimates for Restricted Regressions with Errors in All Variables

In the errors-in-variables model, positive semidefinite conditions on covariance matrices, together with sufficiently small prior limits on the severity of measurement error, imply that the set of feasible values for population coefficients is bounded. The authors show how maintained restrictions can be used to reduce further the set of feasible values for the coefficients. If the restrictions are incorrect, the restricted feasible set will be empty for sufficiently small limits on the severity of measurement error. Hence the restrictions are testable even though

coefficients are not identified. *Int. Econ. Rev.* 1987, 28(2), pp. 445-57. Carnegie University; Dartmouth College.

John L.—Predicting the Turning Points in Business and Economic Time Series

Standard linear least-squares prediction methods are not directly applicable to making probability statements about time series turnings. William F. Wecker suggested a method for extending the least-squares technique to allow computation of the probability distribution of turning points of a time series. Wecker's analysis was univariate and did not consider all sources of uncertainty (i.e., estimation coefficients). The primary purpose of the paper is fourfold: (1) to extend Wecker's method to the case of the multiple time-series; (2) to consider most sources of model uncertainty; (3) to test the procedure for reliability (method of calibrations); and (4) to demonstrate interesting applications. *J. Bus.*, 1987, 60(2), pp. 201-38. University of Virginia.

Jung-Fei—Non-parametric Testing of the Panel Data Models

Stochastic structures of the homogeneous random process, the heterogeneous multivariate process, the Markov chain, and the homogeneous Markov chain are analyzed in the discrete panel data framework. A general theoretical and computationally tractable framework to test the stochastic structures is developed. The testing framework is nonparametric in nature, can incorporate the presence of time-varying exogenous variables, and can be extended to the general polychotomous regressions. Asymptotically optimal tests can be easily implemented. The LM tests for the stochastic structures are simply to test certain normality conditions with residuals. *J. Econometrics*, Jan./Feb. 1987, 34(1/2), pp. 147-160. University of Minnesota.

Jan R.—The Exact Moments of a Quadratic Form in Normal Variables
Exact moments of $x'Ax/x'Bx$ are obtained, where x is a normally distributed vector with mean (possibly nonzero) and positive definite

covariance matrix, A is symmetric and B is positive semidefinite. These moments appear as simple integrals which can be evaluated numerically in a straightforward manner. In addition, the precise conditions for the existence of the moments are found. Some related results are also reported. *Ann. Econ. Statist.*, Oct./Dec. 1986, (4), pp. 95-109. London School of Economics.

McDonald, James B. and Butler, Richard J.—Some Generalized Mixture Distributions with an Application to Unemployment Duration

Compounding or mixture distributions provide a rich class of models for applications ranging from models of heterogeneity, measurement error, distribution of stock returns and income to models of unemployment duration. Some very general mixtures are considered which include many new mixture models and also provide a unified method of organizing and comparing previously considered models as well as a test of heterogeneity. These models are used to analyze CPS unemployment duration data. A heterogeneity interpretation of the mixture models explains the discrepancy between implications of search theory and patterns observed in aggregate unemployment data. *Rev. Econ. Statist.*, May 1987, 69(2), pp. 232-40. Brigham Young University.

McFadden, Daniel—Regression-based Specification Tests for the Multinomial Logit Model

Diagnostic tests for omitted variables or functional misspecification in the multinomial logit model can be performed conveniently by testing the significance of auxiliary regression of residuals on included and excluded variables. In particular, Lagrange Multiplier and Hausman-McFadden tests of the Independence from Irrelevant Alternatives property of the multinomial logit model can be carried out by the regression method using suitably defined excluded variables. Using this method, it is straightforward to test jointly against several sources of misspecification, and to diagnose the structure of deviations from the multinomial logit model. *J. Econometrics*, Jan./Feb. 1987, 34(1/2), pp. 63-82. Massachusetts Institute of Technology.

Newey, Whitney K.—Specification Tests for Distributional Assumptions in the Tobit Model

The recent development of distribution robust estimators for the censored regression model allows for the construction of specification tests of the normality and homoskedasticity assumption of the Tobit model. This paper considers J. Hausman (1978) specification tests for the Tobit model that are based on J. L. Powell's (1986) symmetrically censored least squares estimator. Testing for models with explanatory variables that are endogenous is considered, as well as the simpler case where the explanatory variables are exogenous. Testing of the maintained conditional symmetry assumption of the symmetrically censored least-squares estimator is also considered. The tests are implemented in an empirical example of a model of female labor supply. *J. Econometrics*, Jan./Feb. 1987, 34(1/2), pp. 125–45. Princeton University.

Rouault, Jacques and Capy, Pierre—Comment évaluer un nombre de catégories par échantillonnage (Estimating the Number of Categories by Sampling)

This paper describes a method for estimating the number of categories in an urn of unknown composition. From *a priori* values for the number and frequencies of categories, it is possible to calculate a sampling error and to estimate the number of individuals to draw which would be necessary for decreasing this error beyond a given risk. Successive ~~draws~~ lead to a convergence towards a convenient representation of the urn, in agreement with the fixed risk. *Ann. Econ. Statist.*, Oct./Dec. 1986, (4), pp. 111–24 (French). CNRS, Paris.

Smith, Richard J.—Testing the Normality Assumption in Multivariate Simultaneous Limited Dependent Variable Models

A score-test diagnostic for multivariate non-normality expressed as a multivariate Edgeworth distribution truncated at the fourth order is presented for a multivariate simultaneous-equations system in normally-distributed latent variables subject to a general censoring scheme. The score test involves third- and fourth-order multivariate conditional moments of the struc-

tural system's disturbance terms given the censoring scheme evaluated at the null hypothesis maximum likelihood estimator. The information-matrix test statistic, also given, is a score test for multivariate nonnormality and particular forms of multivariate heteroskedasticity and heterocliticity. Alternative $C(\alpha)$ tests based on CAN estimators are also suggested. *J. Econometrics*, Jan./Feb. 1987, 34(1/2), pp. 105–23. University of Manchester.

Terza, Joseph V.—Estimating Linear Models with Ordinal Qualitative Regressors

The theory and application of ordinal qualitative dependent variable models have been given considerable attention in the social science and statistical literature. Linear models with ordinal qualitative regressors have, however, been neglected. In this paper, a simple specification for such models is developed and a consistent asymptotically normal estimator is offered. The estimator is compared to the conventional dummy-variable approach using simulated data. The simulation results indicate that substantial gains with regard to bias and efficiency can be achieved relative to estimation using a conventional dummy-variable scheme. Said gains appear to increase as the number of ordinal categories increases. The asymptotic properties of the estimator are detailed in the appendices. *J. Econometrics*, Mar. 1987, 34(3), pp. 275–91. University of Georgia.

Tse, Y. K.—A Note on Sargan Densities

This note reconsiders the general class of Sargan densities studied by S. M. Goldfeld and R. E. Quandt (1981) and S. Missiakoulis (1983) in the context of approximating normal densities in regression models. Some errors in these papers are pointed out and the Sargan densities are recomputed. To the contrary of Missiakoulis's conclusion, the first two order densities are not the best choice. Higher-order densities are better approximations, though the best choice appears to be the second-order density based on the Goldfeld-Quandt criteria. *J. Econometrics*, Mar. 1987, 34(3), pp. 349–54. National University of Singapore.

Wills, Hugh—A Note on Specification Tests for the Multinomial Logit Model

Choice probabilities generated by D. McFadden's (1973) random utility model are both multinomial logit and have the Independence of Irrelevant Alternatives (IIA) property. Various authors have suggested specification tests of this property. This paper identifies the alternative tests which these tests are constructed and compares classical specification tests. It is shown that both the null hypothesis and local asymptotic power of the classical tests is the same as a proposed Hausman test. Finally the discussion throws some light on the nature of the IIA property and on the performance of the logit model in applications where one would expect the IIA property to be violated but where the alternative set is fixed. *J. Econometrics*, Jan./Feb. 1987, 34(1/2), pp. 263-74. London School of Economics.

Construction, Analysis, and Use of Econometric Models

McFadden, Trudy Ann and James, Michelle D.—Efficient Estimation Methods for "Closed-ended" Contingent Valuation Surveys

"Closed-ended contingent valuation" surveys can be very useful in the evaluation of non-market resources. Respondents merely state whether they would accept or reject a hypothetical threshold amount, either as payment for giving up access to the resource or as a fee for use. The authors develop a maximum likelihood procedure which exploits the variation in threshold values to allow direct and separate estimates of regression-like slope coefficients and error standard deviations (without location bias). Their illustration uses data from a survey of recreational fishermen to examine factors which influence individuals' willingness-to-pay. *Rev. Econ. Statist.*, May 1987, 69(2), pp. 269-76. University of California, Los Angeles; Department of Fisheries and Oceans, Canada.

Mar, E. Miné—The Sensitivity of Extended Linear Expenditure System Household Scales to Income Declaration Errors

Extended Linear Expenditure System (ELES) household scales use the income variable of the household in identifying a system of Engel curves. Income data in household sur-

veys may contain declaration errors which result in the errors-in-variables problem. A composite error distribution, which incorporates both measurement and declaration errors into the model, is proposed and the ELES scales are reestimated. They are found to be sensitive to income declaration errors and biased measures of household welfare. *J. Econometrics*, Mar. 1987, 34(3), pp. 361-72. Loyola University.

Kulatilaka, Nalin—The Specification of Partial Static Equilibrium Models

In conducting an investigation into the specification of partial static equilibrium factor demand models, this paper isolates: (1) the endogeneity of output and quasi-fixed factor levels; (2) the choice of omitted share equation; and (3) the presence of serial correlation (when using time series data) as the specification issues that most affect the existing empirical literature. The impact of specification changes are studied via a series of experiments conducted on an illustrative data set and are found to have significant effects on: parameter estimates and model diagnostics; departures between observed and full equilibrium levels of quasi-fixed factors; and price elasticities. As a consequence, caveats must be attached to several previous studies and care must be taken by future researchers in addressing using such models. *Rev. Econ. Statist.*, May 1987, 69(2), pp. 327-35. Boston University.

Kumbhakar, Subal C.—The Specification of Technical and Allocative Inefficiency in Stochastic Production and Profit Frontiers

This paper develops techniques for the estimation of technical and allocative inefficiency using the stochastic frontier production methodology under the behavioral assumption of the median profit maximization. Specification and estimation issues are discussed in a single cross-section as well as panel-data framework using the Cobb-Douglas production function. Consistency of the estimates of technical inefficiency is proved in the context of panel data (as T tends to infinity) when technical inefficiency is distributed as half normal or truncated normal. *J. Econometrics*, Mar. 1987, 34(3), pp. 335-48. University of Texas at Austin.

Ransom, Michael R.—A Comment on Consumer Demand Systems with Binding Non-negativity Constraints

For consumer-demand systems derived from a quadratic utility function, the Kuhn-Tucker conditions for utility maximization subject to non-negativity constraints can be modeled as a system of linear simultaneous equations with limited dependent variables. Such systems are "internally consistent" if they have unique solutions. This paper shows that concavity of the utility function guarantees the internal consistency of the associated simultaneous equation system with limited dependent variable. *J. Econometrics*, Mar. 1987, 34(3), pp. 355-59. University of Arizona.

220 ECONOMIC AND SOCIAL STATISTICAL DATA AND ANALYSIS

221 National Income Accounting

Greenwood, Michael J. and Ladman, Jerry R.—Intertemporal and Intersectoral Aspects of Income Distribution in Mexico

This paper describes and analyzes sector and state income inequality in Mexico in 1960 and 1970. During the rapid economic growth of the 1960s, Mexico's economy experienced significant structural transformation. The distribution of income, however, did not improve during the decade, the poorest states having considerably more inequality in each sector. This study clearly shows that public policy has affected the distribution of Mexican income, expenditures for social overhead investment resulting in a movement toward greater equality, but agricultural expenditures, chiefly for irrigation, contributing to increased inequality within the agricultural sector. *Rev. Soc. Econ.*, Apr. 1987, 45(1), pp. 48-63. University of Colorado; Arizona State University.

Stollar, Andrew J.; Grubaugh, Stephen G. and Thompson, G. Rodney—Utilisation of Direct and Indirect Estimates of Real GDP Per Capita: Implications of the Errors in the Variables Model

Several professional journals have presented the results of a series of recent studies on the nature and form of the relationship between real income per capita (purchasing-power-parity adjusted) and nominal income (exchange-

rate adjusted). This paper extends that analysis by applying the errors-in-the-variables model, a technique that allows for estimation of the asymptotic parameter bias that exists when using either a mixed vector of direct and indirect real GDP estimates or a nominal income vector. Statistical concerns about the form of the equation used to generate indirect estimates are also presented. *Econ. J.*, June 1987, 97(386), pp. 468-78. Bentley College; Bentley College; Virginia Polytechnic Institute and State University.

226 Productivity and Growth: Theory and Data

Román, Zoltán—Productivity Growth and Its Slowdown in the Hungarian Economy

International comparison shows that in the last fifteen to twenty years the growth of productivity in Hungary was about average relative to the developed Western countries, the developing countries, and the European socialist countries, while its slowdown after 1979 was slower than average. At the same time, the technological standards of products and production, as well as the structural adjustment of industry, are unsatisfactory and the international competitiveness of the industry is weakening. These are the main causes of the deceleration in the growth of productivity. *Acta Oecon.*, 1985, 35(1-2), pp. 81-104. Institute of Industrial Economics, Hungarian Academy of Sciences, Budapest.

227 Prices

Domberger, Simon—Relative Price Variability and Inflation: A Disaggregated Analysis

Relative price variability has been studied at the cross-sectional (intermarket) level. This paper addresses the equally important phenomenon of intramarket variability: the dispersion of commodity price movements around the industry average. Using quarterly price data for eighty disaggregated commodity groups in the United Kingdom from 1974 to 1984, the paper investigates the determinants of intramarket price variability and replicates some previous cross-sectional tests for the United Kingdom. Intramarket price variability is found to be positively related to inflation. Intramarket variability is found to be positively related to the average (market) rate of price change. *J. Polit.*

Selected Abstracts

on., June 1987, 95(3), pp. 547-66. London Business School and University of Sydney.

oyen, Richard T. and Waud, Roger N.—An Examination of Aggregate Price Uncertainty in Four Countries and Some Implications for Real Output

This study constructs measures of aggregate price uncertainty for four countries (Canada, West Germany, Great Britain, and the United States) and examines the relationship across countries and through time between the inflation rate, inflation variability, and measures of price uncertainty. The results suggest that: the higher and more variable inflation of the 1970s increased uncertainty about the aggregate price level in Canada, Great Britain, and the United States, but not West Germany; and there was significant negative output effect of aggregate price uncertainty for Canada and the United Kingdom, but not for the United States or West Germany. *Int. Econ. Rev.*, June 1987, 28(2), pp. 353-72. University of North Carolina.

bbons, Elizabeth and Halpin, Gerald F.—Import Price Declines in 1986 Reflected Reduced Oil Prices

Price developments discussed in this article are based on data from the Bureau of Labor Statistics' International Price Program which produces import and export price indexes based on the Standard Industrial Classification scheme. Both indexes use a modified Laspeyres formula. Price data are collected for more than 1,000 products, and are not seasonally adjusted. Import price indexes are weighted by the 1980 Tariff Schedule of the United States notation. Export price indexes are weighted by the 1980 Schedule B classification system of the U.S. Bureau of the Census. *Mon. Lab. Rev.*, Apr. 1987, 110(4), pp. 3-17. Bureau of Labor Statistics, Washington, D.C.

well, Craig, Burns, Roger and Clem, Andrew—Sharp Drop in Energy Prices Holds Inflation in Check during 1986

This article examines price changes for major components of the Consumer Price Index and the Producer Price Index. A slight increase in consumer prices was a contrast to the economy of the 1970s, when double-digit price increases were common. Furthermore, producer prices actu-

ally fell across a broad front for the first time since the early 1960s. The continuing decline in energy prices resulted in the Consumer Price Index advancing only 1.1 percent during the twelve-month period ending in December. The finished goods price index turned lower for the first time since 1963, declining 2.5 percent. *Mon. Lab. Rev.*, May 1987, 110(5), pp. 3-9. Bureau of Labor Statistics, Washington, D.C.

300 Domestic Monetary and Fiscal Theory and Institutions

310 DOMESTIC MONETARY AND FINANCIAL THEORY AND INSTITUTIONS

Sarcinelli, Mario—Determinants and Trends of Italian Financial Policy

After assessing the developments in the Italian financial market, the conclusion is reached that financial innovation has been the offspring of high and variable inflation, bulging budget deficits, volatility of interest rates, and direct credit controls. Thus innovation has been fostered more by the authorities than by the market. Atypical or nonstandard securities developed by enterprising operators failed to consolidate themselves because of the lack of a secondary market. Two other determinants of financial policy across countries, i.e. deregulation and privatization, fared poorly in Italy in recent years. As regards fair-play regulation of financial markets, the trend has been upward. Privatization has been piecemeal and has not yet forced its way into Government's priorities. *Banca Naz. Lavoro Quart. Rev.*, Mar. 1987, 40(160), pp. 3-29. Ministero del Tesoro, Rome.

Serletis, Apostolos and Robb, A. Leslie—Divisia Aggregation and Substitutability among Monetary Assets

In this paper the authors estimate the degree of substitutability among the services of money, checkable deposits, savings deposits, and time deposits in a quasi-homothetic translog utility framework for Canada. The four composites mentioned are formed by aggregating more basic assets such as checkable deposits at banks, checkable deposits at trust companies, etc. Traditionally the simple-sum aggregation has been used in this context. The authors investigate

both this alternative and Divisia aggregation of the assets. They find a low degree of substitution among the services of monetary assets and provide some evidence favoring Divisia aggregation over simple-sum aggregation. *J. Money, Credit, Banking*, Nov. 1986, 18(4), pp. 430-46. University of Calgary; McMaster University, Canada.

311 Domestic Monetary and Financial Theory and Policy

Bester, Helmut—The Role of Collateral in Credit Markets with Imperfect Information

This paper analyzes the structure of credit-market equilibrium under imperfect information. Collateralization and credit rationing are compared as alternative means to cope with problems of adverse selection and moral hazard. It is shown that lenders may use collateral as a self-selection and incentive mechanism. Rationing occurs only if the borrowers' collateralizable wealth is too small to allow perfect sorting or to create sufficiently strong incentives. Whenever there is rationing in an equilibrium, some borrowers are charged the maximum amount of collateral. *Euro. Econ. Rev.*, June 1987, 31(4), pp. 887-99. University of Bonn.

Blanchard, Olivier J. and Summers, Lawrence H.—Pourquoi les taux d'intérêts sont-ils aussi élevés (Perspectives on High World Real Interest Rates)

This paper examines the reasons for the dramatic increase in real interest rates in the world economy observed over the 1978 to 1984 period. The authors find little evidence to suggest that budget deficits can be blamed for the increase in worldwide real interest rates. The structural inflation-adjusted budget deficit of the major OECD nations has not changed appreciably since 1978. Rather, the authors are led to explain high real interest rates in terms of the combined effect of tight monetary policies and the increased attractiveness of investment. The importance of the latter factor is evidenced by the strong performance of stock markets and investment around the world in the face of high real interest rates. *Ann. Econ. Statist.*, July/Sept. 1986, (3), pp. 53-100 (French). Massachusetts Institute of Technology; Harvard University.

Bordo, Michael D.; Choudhri, Ehsan U. and Schwartz, Anna J.—The Behavior of Money Stock under Interest Control: Some Evidence for Canada

A widely held view of interest rate control is that under this policy the demand for *M1* determines the behavior of the stock of *M1*. An alternative view is that under interest rate control the supply function of *M1* is the residual quantity determined by the banking system given the levels of bank credit and nontransaction deposits chosen by the nonbank public. The authors find evidence in favor of the alternative view for the Canadian case, 1970-84. *J. Money, Credit, Banking*, May 1987, 19(2), pp. 181-97. University of South Carolina; Carleton University, Canada; National Bureau of Economic Research.

Chan, Yuk-Shee and Thakor, Anjan V.—Collateral and Competitive Equilibria with Moral Hazard and Private Information

The authors examine equilibrium credit contracts and allocations under different competitiveness specifications, and explain the economic roles of collateral under these specifications. Both moral hazard and adverse selection are considered. The principal message is that how a competitive equilibrium is conceptualized significantly affects the characterization of equilibrium credit contracts. Specifically, some well known results in the rationing literature are shown to rest delicately on the adopted equilibrium concept. Two somewhat surprising results emerge. First, high-quality borrowers with unlimited collateral may be priced out of the market despite the bank having idle deposits. Second, high-quality borrowers may put up more collateral. *J. Finance*, June 1987, 42(2), pp. 345-63. Northwestern University and University of Southern California; Indiana University.

Cosimano, Thomas F.—Reserve Accounting and Variability in the Federal Funds Market

The federal-funds market is analyzed under the reserve accounting procedures suggested by Robert D. Laurent (1979) and William Poole (1976). In general, it is shown that the forecast error for the federal-funds rate is smaller when the uncertainty arises from future random

shocks. However, the current forecast error for the demand for money has an ambiguous impact on the forecast error for the federal-funds rate under Laurent or Poole's procedure. *J. Money, Credit, Banking*, May 1987, 19(2), pp. 198-209. Texas A&M University.

Cowen, Tyler and Kroszner, Randall—The Development of the New Monetary Economics

This paper looks into the history of economic thought to examine the forerunners of the "new monetary economics." This approach emphasizes the role of regulations on private financial intermediation in determining the particular institutional arrangements that contemporary monetary theory treats as data. The "new view" investigates the possibility that under *laissez-faire* the unit of account and means of payment, traditionally bundled together in the item called "money," may become separated. The earlier writers who share this perspective have been overlooked by historians of economic thought as well as by recent contributors to the new monetary economics. Many of the insights of these theorists are relevant to modern monetary theory. *J. Polit. Econ.*, June 1987, 95(3), pp. 567-90. Harvard University.

Feltenstein, Andrew and Farhadian, Ziba—Fiscal Policy, Monetary Targets, and the Price Level in a Centrally Planned Economy: An Application to the Case of China

This paper presents a planned-economy monetary model of China. A money supply equation links changes in broad money to government transactions evaluated at official prices. The demand for real money balances by consumers equals the nominal demand for money deflated by an unobserved true price index. The model explains money demand as the divergence between the then official and true price indices. Changes in the money supply are explained by government transactions, while money demand is explained by real income and the anticipated true rate of inflation. The true rate of inflation is 2.5 times the official rate. *J. Money, Credit, Banking*, May 1987, 19(2), pp. 137-56. University of Kansas; International Monetary Fund, Washington, D.C.

Gochoco, Maria S.—Tests of the Money Neutrality and Rationality Hypotheses: The Case of Japan 1973-1985

This study examines the Macroeconomic Rational Expectations Hypothesis for Japan in the period 1973-1985. Monthly, seasonally-unadjusted data and the empirical methodology utilized by Frederic S. Mishkin (1982) are used to test the hypotheses of money neutrality and rationality of expectation formation jointly and separately. Two alternative methods of inducing stationarity in the output data are employed. The tests reject the joint hypotheses of money neutrality and rationality as well as the separate hypothesis of money neutrality. The separate hypothesis of rationality cannot be rejected. *J. Money, Credit, Banking*, Nov. 1986, 18(4), pp. 458-66. University of Hawaii at Manoa.

Goodhart, C. A. E.—Why Do Banks Need a Central Bank?

The conventional view is that the joint provision of payments' services together with portfolio management functions by banks exposes the monetary system to contagious failure, which a Central Bank should prevent. The author argues, however, that the joint provision of payments' services and portfolio management could be safely conducted by mutual collective investment intermediaries without such Central Bank support, and that current technological changes are making this latter development more widespread. The vulnerability of banks lies, instead, primarily in the special nature of their assets, largely nonmarketable, fixed nominal-value loans of uncertain true worth. *Oxford Econ. Pap.*, Mar. 1987, 39(1), pp. 75-89. London School of Economics.

Hardouvelis, Gikas A.—Reserves Announcements and Interest Rates: Does Monetary Policy Matter?

The author provides evidence on the perceived existence of a strong liquidity effect. The analysis is based on the response of the term structure of interest rates to the weekly Federal Reserve announcements of bank reserves during the post-October 1979 time period. It is shown that unanticipated changes in the mix between borrowed and non-borrowed reserves

cause expected real interest rates to change after the announcement because they provide information about a future change in the supply of money. A precise model is developed and tested during subperiods of non-borrowed and borrowed reserve targeting by the Fed. *J. Finance*, June 1987, 42(2), pp. 407-22. Barnard College, Columbia University.

Hoogduin, Lex—On the Difference between the Keynesian, Knightian and the "Classical" Analysis of Uncertainty and the Development of a More General Monetary Theory

In this article it is shown that Keynes's concept of uncertainty is not identical with that of F. H. Knight, as is often argued. The identification of Keynesian with Knightian uncertainty has contributed to the neglect of an aspect of Keynesian uncertainty that is important in understanding the functioning of a monetary economy. Therefore, it is concluded that monetary theory can benefit from the development of an analytical apparatus that incorporates all aspects of Keynesian uncertainty. *De Economist*, 1987, 135(1), pp. 52-65. University of Groningen, the Netherlands.

Kirchgässner, Gebhard—Granger-Kausalität und Rationale Erwartungen

The concepts of rational expectations and Granger causality are described, showing that the Granger causality uses such expectations. Using models of T. J. Sargent and W. H. Buiter it is shown which conclusions about rational expectations and/or policy ineffectiveness can be drawn from the results of Granger causality tests, especially with respect to instantaneous Granger causality. The author concludes with three examples: the relation between money and income; the international interest rate linkage; and the relation between the perception of the general economic situation by voters and the popularity of the major German parties. *Kyklos*, 1987, 40(1), pp. 21-42 (German). FB Wirtschaftswissenschaften, Universität Osnabrück, Germany.

Lucas, Robert E., Jr. and Stokey, Nancy L.—*Money and Interest in a Cash-in-advance*

This paper considers an aggregative general equilibrium model in which the use of money

is motivated by a cash-in-advance constraint, applied to purchases of a subset of consumption goods. The system is subject to both real and monetary shocks, which are economy-wide and observed by all. They develop methods for verifying the existence of, characterizing, and explicitly calculating equilibria. *Econometrica*, May 1987, 55(3), pp. 491-514. University of Chicago; Northwestern University.

Mankiw, N. Gregory and Summers, Lawrence H.—Money Demand and the Effects of Fiscal Policies

This paper reexamines the choice of the scale variable in the money-demand function. A variety of evidence suggests that consumer spending is a better scale variable than GNP. Changing the money-demand specification along these lines can profoundly affect the standard Keynesian analysis of a tax cut. *J. Money, Credit, Banking*, Nov. 1986, 18(4), pp. 415-29. Harvard University and National Bureau of Economic Research.

Marini, Giancarlo—Information Structure and Policy Effectiveness

This paper shows that lagged-feedback rules dominate instantaneous-feedback rules in rational-expectations models where agents are differentially informed across markets. The economic reason is that better-informed agents can disentangle the effects of future anticipated policy responses implied by current lagged-feedback rules, while instantaneous-feedback rules give no indication whatsoever about the future course of policy to any agent. *Econ. Notes*, 1986, (2), pp. 5-16. London School of Economics.

Molho, Lazaros E.—Selective Credit Controls in Greece: A Test of Their Effectiveness

This paper analyzes the effectiveness of policies to stimulate fixed investment by selectively increasing the supply of long-term credit and by reducing its cost. Through a model of a firm's investment and financing decisions, the paper shows that firms may neutralize the effects of such policies by changing their financing patterns. Empirical analysis suggests that Greek industrial firms indeed tended to offset the relative contraction of short-term credit during

1973-74 by diverting a greater share of long-term and internal funds to finance working capital, while using a smaller share of these funds to finance fixed capital. *Int. Monet. Fund Staff Pap.*, Sept. 1986, 33(3), pp. 477-508. International Monetary Fund, Washington, D.C.

Montiel, Peter J.—An Optimizing Model of Household Behavior under Credit Rationing

This paper uses an intertemporal optimizing model to examine household behavior in a world in which bank credit is rationed and households have no additional sources of finance other than their own savings. It is shown that, given the household rate of time preference, the demand for capital is unaffected in the long run by changes in the availability of bank credit or in either deposit or loan interest rates. These measures do affect the demand for capital in the short run and the entire time paths of both consumption and money demand. *Int. Monet. Fund Staff Pap.*, Sept. 1986, 33(3), pp. 583-615. International Monetary Fund, Washington, D.C.

Paleologos, John—Unanticipated Money, Output, and Inflation in Greece

This paper develops and estimates a small new-classical model of the Greek economy using annual data from 1954 to 1980. The model is "monetarist" as the demand for output is derived from the demand for money function. In this model output is affected only by actual and anticipated monetary growth, whereas the price level is influenced by both actual and unanticipated changes in money supply, using single equation and simultaneous equation techniques. *Public Finance*, Dec. 1986, 41(3), pp. 415-29. Piraeus Graduate School of Industrial Studies, Greece.

Patterson, Kerry David—The Specification and Stability of the Demand for Money in the United Kingdom

This article reports a dynamic demand for money function specified in differences-plus-dis-equilibrium form, with direct estimates of the static long-run coefficients and their "statics." Unit elasticity assumptions on prices and income are tested. The recursive residuals form is tested against the temporal stability of

the coefficients; and the results are contrasted with previous work. The article concludes that there is evidence that lags in monetary relations have become shorter in the 1970s. *Economica*, Feb. 1987, 54(213), pp. 41-55. University of Reading and the Bank of England.

Postlewaite, Andrew and Vives, Xavier—Bank Runs as an Equilibrium Phenomenon

A standard demand-deposit contract in which individuals are entitled to their full deposit at any time provided the bank is solvent is analyzed in a context in which there are no exogenous events on which agents condition their behavior and a unique equilibrium involving a bank run with positive probability is shown to exist. *J. Polit. Econ.*, June 1987, 95(3), pp. 485-91. University of Pennsylvania.

Richards, Daniel J.—Unanticipated Money and the Political Business Cycle

Six different series of one-period forecasts for money growth are generated for each year, 1960 through 1984. The prediction errors are analyzed to see whether the authorities attempted to expand the economy in election years by unexpectedly raising money growth. While there is no evidence of attempts to fool the public throughout the entire 1960-84 period, such fooling may have been tried through 1974. It is speculated that the public discussion of expectations formation and of politicians' motivations since then may have signaled officials that further attempts to mislead the public would be prohibitively costly. *J. Money, Credit, Banking*, Nov. 1986, 18(4), pp. 447-57. Tufts University.

Sephton, Peter S.—The Choice of Monetary Policy Instruments in Canada: An Extension

W. Poole (1970) and Gordon Sparks (1979) used fixed-price models to examine the relative merits of various monetary policy instruments. This paper extends the discussion to a flex-price model. It illustrates that bank reserve accounting systems have no effect on the choice of interest-rate or exchange-rate instruments. The author shows that income is sheltered from

financial innovation when a reserve instrument is used in conjunction with lagged reserve accounting. *Can. J. Econ.*, Feb. 1987, 20(1), pp. 55-60. University of New Brunswick.

Simos, Evangelos O. and Triantis, John E.—
The Effect of Structural Instability on the Demand for Money Forecast

Previous empirical works attempt to explain the downward shift of the demand for money since 1975 by including alternative explanatory variables which produce marginally better results in an OLS environment. Using varying parameter regression models, it is shown that OLS results are misleading because the shift in the demand for money is not captured by constant-coefficient models. Static and dynamic varying parameter regression forecasts are superior to OLS forecasts and appear to resolve the missing money puzzle. *Econ. Notes*, 1986, (2), pp. 43–61. University of New Hampshire; AT&T-Communications, Morristown, New Jersey.

Sumner, Michael T. and Ward, Robert—
Nonlinear Estimates of the UK Phillips Curve

A spline function is used to estimate an expectations-augmented Phillips curve, in order to allow a discontinuity in the relationship between unemployment and wage inflation. A kink is found to occur at an unemployment rate just above the "natural" level: at higher rates of unemployment the partial Phillips curve is essentially horizontal. The Implication of these results is that the severely deflationary policies pursued in the United Kingdom during the 1980s are highly inefficient. *Econ. Notes*, 1986, (2), pp. 62–67. University of Sussex; University of Salford, United Kingdom.

Sundararajan, V.—The Debt-Equity Ratio of Firms and the Effectiveness of Interest Rate Policy: Analysis with a Dynamic Model of Saving, Investment, and Growth in Korea

This paper analyzes empirically the linkage between interest rates, the debt-equity ratio of firms, the overall cost of capital, savings, investment, and growth in the Korean economy during 1963–81. The interdependence between the financing and real decisions is explicitly modeled. Estimates show that the overall cost of capital is U-shaped, first falling and then rising as the debt-equity ratio rises, and this relationship has far-reaching implications for the effectiveness of interest-rate policy. In particu-

lar, model simulations reveal that in recent years, owing to high corporate debt, the effectiveness of interest-rate policy has been substantially weakened. *Int. Monet. Fund Staff Pap.*, June 1987, 34(2), pp. 280–310. International Monetary Fund, Washington, D.C.

Turnovsky, Stephen J.—Supply Shocks and Optimal Monetary Policy

This paper demonstrates that if current shocks are observed instantaneously, output can be stabilized perfectly for completely general supply disturbances, using simple monetary rules based only on: (1) the current shock; (2) the previous forecast of the current shock; and (3) the forecast for just one period ahead. The optimal rule can be expressed in an infinite number of ways and various alternatives are considered. With optimal wage indexation, the monetary rule is even simpler. If current shocks are not observed instantaneously, but are inferred from other signals, the optimal rules are of the same form, with the current perceived disturbance replacing the actual. *Oxford Econ. Pap.*, Mar. 1987, 39(1), pp. 20–37. University of Illinois and National Bureau of Economic Research.

Viren, Matti E. E.—Examining the Long-run Relationship between Interest Rates and Inflation: Some Cross-country Evidence

This paper analyzes the magnitude of the long-run effect of anticipated inflation on nominal interest rates. The analysis makes use of alternative measures of anticipated inflation and of dynamic model specifications as well as of some cointegration test procedures. Empirical results with cross-country data from eleven countries covering the period 1873–1984 indicate that a Fisher-hypothesis-type relationship does indeed hold in the long run, but that the relationship is rather imprecise and the "adjustment periods" are very long. *Econ. Notes*, 1986, (3), pp. 122–33. University of Helsinki, Finland.

312 Commercial Banking

Rhoades, Stephen A.—The Effect of Nonbank Thrift Institutions on Commercial Bank Profit Performance in Local Markets

Nonbank thrift institutions have been given new powers that make them technically closer competitors of commercial banks. This article uses a standard structure-performance model to determine whether a Herfindahl index measure of market structure, modified to account for nonbank thrifts, is a more powerful variable for explaining commercial bank profit performance than a Herfindahl index based on banks only. Tests covering 335 local markets for 1978-82, 1978-79, and 1981-82 indicate the Herfindahl index based on banks and thrifts performs no better than one based on banks only. This is a rather surprising result suggesting that generally nonbank thrifts do not greatly increase competition faced by commercial banks. *Quart. Rev. Econ. Bus.*, Spring 1987, 27(1), pp. 16-28. Federal Reserve Board, Washington, D.C.

Udell, Gregory F.—Pricing Returned Check Charges under Asymmetric Information

Consumer deposit pricing has recently been the subject of close public scrutiny. Banks have been accused of monopolistically setting fees for some of their deposit services at levels greater than associated costs. This paper examines consumer deposit pricing in a world characterized by imperfect information about a heterogeneous customer population. It is demonstrated that banks, in order to minimize an adverse selection problem, utilize a menu of pricing elements including NSF fees, minimum balance requirements, and deposit hold schedules. As a result, competitive banks may be deliberately overcharging for some component deposit services while simultaneously undercharging for others. *J. Money, Credit, Banking*, Nov. 1986, 18(4), pp. 495-505. New York University.

313 Capital Markets

Allen, Paul R. and Sirmans, C. F.—An Analysis of Gains to Acquiring Firm's Shareholders: The Special Case of REITs

This study uses capital market data to measure the effects of real estate investment trust mergers on the wealth of the acquiring trust's shareholders. A significant increase in shareholder wealth is detected. This differs from the findings of other acquisition studies. The pri-

mary source of the value gain seems to be improved management of the acquired trust's assets. *J. Finan. Econ.*, Mar. 1987, 18(1), pp. 175-84. Louisiana State University.

Ariel, Robert A.—A Monthly Effect in Stock Returns

The mean return for stocks is positive only for days immediately before and during the first half of calendar months, and indistinguishable from zero for days during the last half of the month. This "monthly effect" is independent of other known calendar anomalies, such as the January effect documented by others, and appears to be caused by a shift in the mean of the distribution of returns from days in the first half of the month relative to days in the last half. *J. Finan. Econ.*, Mar. 1987, 18(1), pp. 161-74. Baruch College, City University of New York.

Barone-Adesi, Giovanni and Whaley, Robert E.—Efficient Analytic Approximation of American Option Values

This paper provides simple analytic approximations for pricing exchange-traded American call and put options written on commodities and commodity futures contracts. These approximations are accurate and considerably more computationally efficient than finite-difference, binomial, or compound-option approximation methods. *J. Finance*, June 1987, 42(1), pp. 301-20. University of Alberta; Duke University.

Bierwag, G. O.; Kaufman, George G. and Latta, Cynthia M.—Bond Portfolio Immunization: Tests of Maturity, One- and Two-Factor Duration Matching Strategies

This paper provides additional evidence on the usefulness of duration as a strategy tool by developing a two-factor duration model and by using a reasonably reliable database to compare empirically the relative performance of maturity, one-factor duration, and two-factor duration matching strategies in immunizing portfolios of default-free and option-free bonds against interest-rate risk. The results suggest that, on average, duration models, even for arbitrarily assumed simple stochastic processes, are more

accurate than maturity models and that increased accuracy may be achieved by increasing the length of the planning period and the number of factors in the model. *Financial Rev.*, May 1987, 22(2), pp. 203-19. University of Arizona; Loyola University; DRI/McGraw-Hill, Lexington, Massachusetts.

Booth, Laurence—The Dividend Tax Credit and Canadian Ownership Objectives

This paper discusses the role of the dividend tax credit in determining the Canadian ownership pattern of Canadian industry. The analytic tool used is the capital-asset pricing model extended to include differential taxation of dividends and capital-gains income across different countries. The paper finds that changes in the dividend tax credit will have a differential impact on Canadian ownership, depending on sectoral differences in dividend yields and variances of rates of return, and the correlation structure. Empirical simulation of the model suggests that the effects are significant. *Can. J. Econ.*, May 1987, 20(2), pp. 321-39. University of Toronto.

Borensztein, Eduardo R.—Alternative Hypotheses about the Excess Return of Dollar Assets, 1980-84

This paper explores the empirical validity of two hypotheses that could help to explain—within the framework of efficient financial markets—why the returns on U.S. dollar-denominated assets exceeded so amply those of similar securities of different currency denomination between 1980 and 1985. These two hypotheses describe scenarios in which the exchange rate displays an asymmetric probability distribution: a "peso problem" model and a speculative bubble model. Both models are found to be consistent with the sample data. *Int. Monet. Fund Staff Pap.*, Mar. 1987, 34(1), pp. 29-59. International Monetary Fund, Washington, D.C.

Chiang, Raymond—Some Results on Bond Yield and Default Probability

Yield-to-maturity of corporate bonds and yield spreads have become common proxies for default risk. However, the default-risk problem is multi-dimensional. Given the market required rate of return, the payoff when default

occurs and the default probability jointly determine a bond's yield-to-maturity. Thus, direct implications from yield-to-maturity to default probabilities among individual bonds generally cannot be drawn. This paper examines the sufficient conditions for yield-to-maturity to be the proper ordering or proxy for bond default risk. *Southern Econ. J.*, Apr. 1987, 53(4), pp. 1037-51. University of Miami.

Cleeton, David L. and Reeder, Paul A.—Stock and Option Markets: Are Insider Trading Regulations Effective?

While the theoretical debates on the role of insider trading continue and empirical evidence is gathered, little discussion has focused on the difficult problems of determining what behaviors by insiders are aligned with attempts to make profits or avoid losses on the basis of their information. In particular, option markets have been left out of most of the analysis of insider trading but offer trading opportunities that are at least as profitable as trading in common stock. This article examines the link between traded options and SEC enforcement practices against insider trading. *Quart. Rev. Econ. Bus.*, Spring 1987, 27(1), pp. 63-76. Oberlin College; Loomis, Sales and Company, Boston.

Elton, Edwin J.; Gruber, Martin J. and Rentzler, Joel C.—Professionally Managed, Publicly Traded Commodity Funds

Investment in professionally-managed, publicly-traded commodity funds has grown rapidly in recent years. This is the first comprehensive study of the performance of these funds. It is found that randomly selected funds offer neither an attractive alternative to bonds nor a profitable addition to a portfolio of stocks and bonds. Furthermore, past performance of these funds offers very little information about future performance. The findings may be explained by the large transactions costs incurred by these funds and their primary reliance on technical analysis. *J. Bus.*, Apr. 1987, 60(2), pp. 175-99. New York University; New York University; Baruch College.

Ferson, Wayne E., Kandel, Shmuel and Staum, Robert F.—Tests of Asset Pricing

with Time-Varying Expected Risk Premiums and Market Betas

Tests of asset-pricing models are developed that allow expected risk premiums and market betas to vary over time. These tests exploit the relation between expected excess returns and current market values. Using weekly data for 1963-82 on ten common stock portfolios formed according to equity capitalization, a single risk-premium model is not rejected if the expected premium is time varying and is not constrained to correspond to a market factor. Conditional mean-variance efficiency of a value-weighted stock index is rejected, and the rejection is insensitive to how much variability of expected risk premiums is assumed. *J. Finance*, June 1987, 42(2), pp. 201-20. University of Chicago.

Ferson, Wayne E. and Merrick, John J., Jr.—Non-stationarity and Stage-of-the-Business-Cycle Effects in Consumption-Based Asset Pricing Relations

Empirical tests of Euler equations relating security returns and consumption usually appear to reject the model. Using a common specification of aggregate preferences and instrumental variables, this paper examines some potential reasons for rejections. The evidence indicates that maintained stationarity assumptions of previous tests fail for post-war U.S. quarterly and monthly data. Shifts in model parameters are found across policy regimes (pre-1951 and post-1979) and across states of the business cycle (recession versus non-recession). Controlling for some of these factors, less evidence is found against a simple consumption-based asset pricing model in non-recession periods. *J. Finan. Econ.*, Mar. 1987, 18(1), pp. 127-46. University of Chicago; New York University.

Furtado, Eugene P. H. and Rozoff, Michael S.—The Wealth Effects of Company Initiated Management Changes

The essence of corporate control includes the hiring and firing of key managers. The authors examine changes in equity values when the Board of Directors appoints and dismisses top-level managers. The evidence suggests that: management changes signal shifts in company policy and raise shareholder wealth; internal

promotions confirm the soundness of investment by large companies in firm-specific human capital while external appointments do not; promotions occur more often than external appointments but decline in importance as firm size decreases; and dismissal is not a favored means to handle managerial underperformance but is associated with stock price increases when used. *J. Finan. Econ.*, Mar. 1987, 18(1), pp. 147-60. Kansas State University; University of Iowa.

Glascok, John L.; Davidson, Wallace N., III and Henderson, Glenn V.—Announcement Effects of Moody's Bond Rating Changes on Equity Returns

This paper examines stock-return behavior around the announcement date of a bond-rating change by Moody's Bond Service. Moody's data are used to clarify the announcement day. The results show that equity returns react around bond reratings. The reratings for downgrades appears to signal the end of a downward drift in equity residuals. Unexpectedly, the reaction is on the publication of the Bond Survey, not the wire service announcement day. *Quart. J. Bus. Econ.*, Summer 1987, 26(3), pp. 67-78. Louisiana Tech; North Texas State University; University of Cincinnati.

Hansen, Lars Peter and Richard, Scott F.—The Role of Conditioning Information in Deducing Testable Restrictions Implied by Dynamic Asset Pricing Models

The purpose of this paper is to investigate testable implications of equilibrium asset pricing models. The authors derive a general representation for asset prices that displays the role of conditioning information. This representation is then used to examine restrictions implied by asset pricing models on the unconditional moments of asset payoffs and prices. In particular, they analyze the effect of information omission on the mean-variance frontier of one-period returns on portfolios of securities. Also, the authors deduce an information extension of equilibrium pricing functions that is useful in deriving restrictions on the unconditional moments of payoffs and prices. *Econometrica*, May 1987, 55(3), pp. 587-613. University of Chicago; Carnegie-Mellon University.

Heaton, Hal—The Relative Yields on Taxable and Tax-exempt Debt

A valuation model for corporate tax liabilities is developed and used to derive a relationship for the relative yields of taxable and tax-exempt debt. The model incorporates both the incomplete tax loss offset of the U.S. corporate tax code and the resulting probabilistic marginal tax rate. The relationship is then tested using regression analysis; the results are both positive and strong. *J. Money, Credit, Banking*, Nov. 1986, 18(4), pp. 482-94. Brigham Young University.

Hull, John C. and White, Alan D.—The Pricing of Options on Assets with Stochastic Volatilities

One option-pricing problem which has hitherto been unsolved is the pricing of European call on an asset which has a stochastic volatility. This paper examines this problem. The option price is determined in series form for the case in which the stochastic volatility is independent of the stock price. Numerical solutions are also produced for the case in which the volatility is correlated with the stock price. It is found that the Black-Scholes price frequently overprices options and that the degree of overpricing increases with the time to maturity. *J. Finance*, June 1987, 42(2), pp. 281-300. York University, Toronto.

Kandel, Shmuel and Stambaugh, Robert F.—On Correlations and Inferences about Mean-Variance Efficiency

A framework is presented for investigating the mean-variance efficiency of an unobservable portfolio based on its correlation with a proxy portfolio. A sensitivity analysis derives the highest correlation between the proxy and a portfolio that reverses the inference of a test of Sharpe-Lintner tangency. For example, the maximum correlation between the value-weighted NYSE-AMEX portfolio and a portfolio inferred tangent ranges from 0.76 to 0.48. The authors also test whether the correlation between the proxy and the tangent portfolio exceeds a given level. This hypothesis is often rejected for the NYSE-AMEX proxy at a correlation of 0.7. *J. Finan. Econ.*, Mar. 1987, 18(1), pp. 61-90. University of Chicago.

Larcker, David F. and Lys, Thomas—An Empirical Analysis of the Incentives to Engage in Costly Information Acquisition: The Case of Risk Arbitrage

In order for security prices to be informationally efficient, incentives must exist for traders to engage in costly information acquisition. This paper provides empirical evidence on this proposition. The authors observe that risk arbitrageurs (i.e., market participants who trade in securities of firms that are involved in mergers, tender offers, and voluntary liquidations) are able to generate private information regarding the success or failure of corporate reorganizations. Moreover, risk arbitrageurs earn substantial returns on their trading activities. These results suggest that security prices are sufficiently noisy to create incentives for costly information acquisition. *J. Finan. Econ.*, Mar. 1987, 18(1), pp. 111-26. University of Pennsylvania; Northwestern University.

Lehmann, Bruce N. and Modest, David M.—Mutual Fund Performance Evaluation: A Comparison of Benchmarks and Benchmark Comparisons

The main goal in this paper is to gauge the sensitivity of conventional measures of abnormal mutual-fund performance to the benchmark chosen to measure normal performance. The authors employed standard CAPM benchmarks and a variety of APT benchmarks to investigate this question and found little similarity between the absolute and relative rankings implied by them. Hence, both the model for risk and return and the method used to construct the APT benchmark are important choices in this context. Finally, the authors found statistically significant measured abnormal performance using all benchmarks. The economic interpretation of this phenomenon appears to be an open question. *J. Finance*, June 1987, 42(2), pp. 233-66. Columbia University and National Bureau of Economic Research; Columbia University and University of California, Berkeley.

McCulloch, J. Huston—The Monotonicity of the Term Premium: A Closer Look

Eugene F. Fama's 1984 evidence that the term premium on Treasury securities is not

monotonically increasing is found to depend entirely on the behavior of bid-asked mean returns on nine- and ten-month bills, and only during the subperiod 8/64–12/72. When transactions costs, as reflected in the bid-asked spread, are taken into account, there is found to be no way to exploit this nonmonotonicity. The anomalous behavior of the quotations is attributed to the Treasury's auctions of nine-month bills during the period 9/66–10/72. The hypothesis that the term premium is a monotonically increasing function of maturity remains unrefuted. *J. Finan. Econ.*, Mar. 1987, 18(1), pp. 185–91. Ohio State University.

McLaren, Keith R. and Upcher, Mark R.—Testing Further Restrictions on Portfolio Models

Further sets of restrictions that can arise from the theory of portfolio models are examined. These are of two major classes: variance-covariance restrictions arising from explicit attention to the introduction of the error term, restrictions on the interest-rate response matrix which have not been fully accounted for in previous studies. Under certain assumptions a "reverse regression" procedure for estimation becomes more appropriate. A hierarchy of restrictions is developed, and estimation and testing are demonstrated using an empirical application. *Australian Econ. Pap.*, Dec. 1986, 25(47), pp. 193–205. Monash University, Australia; Department of Prime Minister and Cabinet, Canberra, Australia.

Newbery, David M.—When Do Futures Markets Destabilize Spot Markets?

Futures markets allow agents to shift price risk onto speculators and encourages them to take riskier decisions. Historically their main impact has been to encourage the storage of commodities, thus arbitraging prices over time and reducing price fluctuations. This paper presents a simple model in which opening futures markets in a nonstorable commodity encourages producers to choose riskier production techniques which destabilizes supply and hence the spot price. *Int. Econ. Rev.*, June 1987, 28(2), pp. 291–97. Churchill College, Cambridge.

Ofer, Aharon R. and Thakor, Anjan V.—A Theory of Stock Price Responses to Alternative Corporate Cash Disbursement Methods: Stock Repurchases and Dividends

This paper develops a model in which managers can signal their firms' true values by using either a dividend or a stock repurchase or both. The authors explain a number of stylized facts about these cash disbursement mechanisms, particularly those concerning the relative magnitudes of stock price responses to dividends and repurchases. Most importantly, they explain why a stock repurchase elicits a significantly higher price response, on average, than a dividend announcement. *J. Finance*, June 1987, 42(2), pp. 365–94. Tel-Aviv University; Indiana University.

Reinganum, Marc R. and Shapiro, Alan C.—Taxes and Stock Return Seasonality: Evidence from the London Stock Exchange

Prior to the introduction of capital-gains taxes, seasonality is not detected in the returns of firms that traded on the London Stock Exchange. However, after the imposition of a capital-gains tax, the British stock return data exhibit apparent monthly effects in both January and April. Additional analysis reveals that, while the April effect is consistent with the tax-loss-selling hypothesis, the January effect cannot be attributed solely to the introduction of capital-gains taxation. Furthermore, the authors efforts indicate that much caution should be exercised when interpreting studies that compare results from non-U.S. data sources with those from U.S. data. *J. Bus.*, Apr. 1987, 60(2), pp. 281–95. University of Southern California.

Shanken, Jay—Multivariate Proxies and Asset Pricing Relations: Living with the Roll Critique

A framework is developed in which inferences can be made about the validity of an equilibrium asset pricing relation, even though the central aggregate in this relation is unobservable. A multivariate proxy for the true market portfolio, consisting of an equal-weighted stock index and a long-term government bond index, is employed in an investigation of the Sharpe-Lintner CAPM. The hypothesis that (1) CAPM

is valid; and (2) multiple correlation between the true market portfolio and proxy assets exceeds 0.7. Connections to the equilibrium factor pricing literature are also explored. *J. Finan. Econ.*, Mar. 1987, 18(1), pp. 91-110. University of Rochester.

Wilson, Jack W. and Jones, Charles P.—A Comparison of Annual Common Stock Returns, 1871-1925 with 1926-1985

Lawrence Fisher and James H. Lorie, and Roger G. Ibbotson and Rex A. Sinquefeld have documented annual returns on common stocks since 1926. Prior to 1926, due to the work of the Cowles Commission, annual returns can be extended back to January 1871. This study utilizes Alfred Cowles's reconstruction of common stock returns to provide a comparison between the periods 1871-1925 and 1926-85. A comparable series of annual returns over the complete 115-year period is developed in both nominal and inflation-adjusted terms. The comparison of the two periods suggests that the inflation-adjusted return averages 6.6 percent with similar variability between the two periods. *J. Bus.*, Apr. 1987, 60(2), pp. 239-58. North Carolina State University.

314 Financial Intermediaries

Masulis, Ronald W.—Changes in Ownership Structure: Conversions of Mutual Savings and Loans to Stock Charter

This study analyzes both the causes and effects of mutual S&L conversions to corporate charter. Changes in technology and government policies have substantially increased S&L competition, riskbearing, and potential scale and scope economies. Evidence indicates that these changes have decreased the relative operating advantages of mutual S&Ls, encouraging conversions to stock charter. The S&L's financial and operating characteristics, which affect the success of the conversion effort, are also explored. *J. Finan. Econ.*, Mar. 1987, 18(1), pp. 29-59. Southern Methodist University.

Master, Loretta J.—A Multiproduct Cost Study of Savings and Loans

This paper investigates the cost structure of savings and loans. Most studies of financial institutions failed to take into account their

multiproduct nature. Using the multiproduct approach, the existence of subadditivity, multiproduct global and product-specific economies of scale and scope, and substitutability between inputs is investigated. A translogarithmic cost function is estimated using 1982 data on California savings and loans. Restrictive functional forms also estimated are rejected. Standard errors for the statistics calculated are estimated and various statistical tests are conducted. Previous authors have not calculated standard errors for these statistics. No evidence of subadditivity in the industry is found. *J. Finance*, June 1987, 42(2), pp. 423-45. Federal Reserve Bank of Philadelphia.

320 FISCAL THEORY AND POLICY; PUBLIC FINANCE

321 Fiscal Theory and Policy

Artus, Patrick—Les dépenses publiques et leur mode de financement en économie ouverte avec changes flexibles: efficacité et stabilité de l'économie (Public Expenditures and Deficit Financing in an Open Economy with Flexible Exchange Rates: Efficiency and Stability of the Economy)

In this article, a dynamic model for an open economy with flexible exchange rates is developed and used to study the efficiency of an increase in public expenditures in the long run, according to the way it is financed, and its long term effect on prices. The stability of the economy in the different cases is also analyzed in relation to the sensitivity of investment with respect to interest rates and to the degree of price rigidity. *Ann. Econ. Statist.*, July/Sept. 1986, (3), pp. 119-40 (French). Bank of France.

Aumann, Robert J.; Kurz, Mordecai and Neyman, Abraham—Power and Public Goods

A game-theoretic analysis using the Harsanyi-Shapley nontransferable utility value indicates that the choice of public goods in a democracy is not affected by who has voting rights. This is corroborated by an independent economic argument based on the implicit price of a vote. *J. Econ. Theory*, June 1987, 42(1), pp. 106-27. Hebrew University, Israel; Stanford University; Hebrew University, Israel.

Cramer, Helmut; Kessler, Denis and Peltier, Pierre—Fertility Differentials and the Regressive Effect of Public Debt

This paper shows that public debt issue may be regressive given the following three conditions: that the number of children varies among families; that a bequest motive implies operative intergenerational transfers; and that debt finance of government expenditure postpones its actual payment to the next generation. Though perhaps minor, this effect of fertility differentials ought to be considered when assessing the overall distributive incidence of debt finance as compared to tax finance. *Economica*, Feb. 1987, 54(213), pp. 79-87. University of Liege, Belgium; University of Paris-X, Nanterre, France; University of Liege & CORE, Belgium.

Dalamagas, Basil A.—A Flow of Funds Analysis of Crowding Out: Some International Evidence

The combination of large budget deficits among industrial countries and high real interest rates has rekindled interest in crowding out. Most empirical work to date, in testing the implications of expansionary fiscal policy measures, finds that bond-financed increases in government expenditure displace equal amounts of real private activity in the long run. This paper brings a different perspective to empirical investigations of government fiscal policies by expanding the analysis to a sample containing the most industrialized OECD countries. The results are inconsistent with the idea of crowding out and lend support to the neo-Keynesian position of crowding in effects. *Southern Econ. J.*, Apr. 1987, 53(4), pp. 997-1010. University of Athens, Greece.

Darrat, Ali F.—Fiscal Impulse and the Real Economy

This paper examines whether the German authorities can use fiscal (and monetary) policy to raise real output above the trend level. In specifying the anticipated policy and real output equations, Akaike's FPE criterion and Granger's causality tests are employed. These equations, moreover, stress the open-economy nature of Germany and avoid possible endogeneity problems. The results, generated using Zellner's system-estimation method, indicate that only the unanticipated component of fiscal policy can cause significant changes in real

output, casting doubt on the usefulness of fiscal policy as a real stabilization tool. *Public Finance*, Dec. 1986, 41(3), pp. 316-30. University of New Orleans.

Eichberger, Jürgen—On the Efficacy of Fiscal Policy

This paper shows in a model of an economy with goods, labor, bond, and money market where prices and wages are fixed but the interest rate is flexible, that even in a Keynesian unemployment state an increase in government expenditure will not necessarily increase employment, if production takes time. The robustness of this proposition in regard to expectational assumptions is also studied. *Ann. Econ. Statist.*, July/Sept. 1986, (3), pp. 151-68. Australian National University.

Hamilton, Jonathan H.—Optimal Wage and Income Taxation with Wage Uncertainty

Optimal taxation in a two-period model with human-capital investment and second-period wage uncertainty is analyzed. A proportional tax on wages dominates lump-sum taxation and the socially-optimal level of human capital exceeds that which individuals choose. A tax on interest income may raise welfare by encouraging investment in human capital. The interest-income tax reduces the difference between returns to physical and human capital from individuals' inability to reduce human-capital risk through diversification. A positive interest-income tax rate may therefore be optimal, even with an optimal wage tax, by encouraging more investment in human capital. *Int. Econ. Rev.*, June 1987, 28(2), pp. 373-88. University of Florida.

Kessler, Denis; Perelman, Sergio and Pestieau, Pierre—L'hypothèse d'équivalence entre impôt et emprunt: un test sur les pays de l'OCDE

This paper provides a short survey of the theoretical discussion on the equivalence between taxation and debt financing of public expenditures. It stresses that the key assumption in this debate concerns the behavior of individuals toward their economic environment and public policy. Then, it turns to an empirical test of

equivalence based on a new sample of 19 OECD countries for the period 1961–83. The conclusion is consistent with previous studies: the case of equivalence between tax and debt financing is not established. *Ann. Econ. Statist.*, July/Sept. 1986, (3), pp. 141–49 (French). University of Paris-X; University of Liege; CORE and University of Liege.

Kingston, Geoffrey H. and Layton, Allan P.—The Tax Smoothing Hypothesis: Some Australian Empirical Results

The central proposition of tax-smoothing theory is that intertemporally efficient marginal-tax rates will be *ex ante* uniform over time. Australian postwar tax rates, comprising annual data spanning the period 1949/50 to 1984/85, are found to be random walks. These findings lend some (*prima facie*) empirical support to the "uniformity" proposition. *Australian Econ. Pap.*, Dec. 1986, 25(47), pp. 247–51. University of Queensland, Australia; Macquarie University, Australia.

Phelps, Edmund S.—Profits Theory and Profits Taxation

This paper considers welfare effects of a tax on profits in a small, open economy in which firms operate in world "customer markets" so that their profits are not entirely competed away. The conclusion is that, up to a point, a tax on corporate profits increases welfare. Siphoning off some of firms' pure profit allows: a net addition to total tax revenue; a lightening of marginal tax rates on work; a narrowing of the wedge between the after-tax real wage and the marginal productivity of labor; and an increase in productivity and output. The principal cost is that the consequent capital outflow reduces the before-tax wedge, limiting the optimal profits tax rate to less than 100 percent. *Int. Monet. Fund Staff Pap.*, Dec. 1986, 33(4), pp. 674–96. Columbia University.

Phelps, Edmund S.—The Significance of Customer Markets for the Effects of Budgetary Policy in Open Economies

A new model of the small, open economy is constructed in which home producers operate in an international "customer market." Increased public expenditure on home output

causes the home real interest rate to rise, boosting the velocity of money. It may also cause home firms to shave their markups, thus boosting the real supply of money. Hence employment is up, at first. But the boom is followed by a slump. *Ann. Econ. Statist.*, July/Sept. 1987, (3), pp. 101–17. Columbia University.

Quintieri, Beniamino and Rosati, Furio Camillo—Changes in Tax Structure and Individual Behaviour

In this paper the effects of different tax structures on individual incentives to work and to save are considered. Three different manoeuvres of fiscal policy, characterized by the substitution among progressive income taxation, indirect taxation, and capital taxation, are examined. The result obtained shows that a change in the tax structure modifies individual incentives to work, while it has smaller effects on saving decisions. In particular it is shown that a reduction in progressive income tax, coupled with an increase in indirect tax rate or with an increase in capital taxation, gives rise to an increase in the individual labor supply. *Econ. Notes*, 1986, (3), pp. 30–46. L.U.I.S.S., Rome; University of Teramo, Italy.

Rogers, Carol Ann—Expenditure Taxes, Income Taxes, and Time-Inconsistency

Traditional welfare-based comparisons of different tax structures implicitly assume that the government can precommit to its future optimal policy. When optimal tax rates are time inconsistent, however, such comparisons may be misleading. This paper uses a two-period, representative-consumer, optimal-taxation model to study the implications of time consistency for the welfare rankings of expenditure and income taxation. The author shows that the welfare rankings of optimal policies may not be preserved by time-consistent ones. *J. Public Econ.*, Mar. 1987, 32(2), pp. 215–30. Georgetown University.

Sandmo, Agnar—A Reinterpretation of Elasticity Formulae in Optimum Tax Theory

This paper presents a unified interpretation of three special cases which have been widely discussed in the theory of optimum taxation.

These are the Corlett-Hague case and two versions of the inverse elasticity rule, derived on the assumption that either the compensated or the uncompensated cross elasticities of demand are zero. It is demonstrated that all three cases imply that it is the compensated elasticities which determine efficient tax differentiation, and that complementarity with the untaxed numéraire, emphasized by W. J. Corlett and D. C. Hague (1953-54), plays a role in the interpretation of all three cases. *Economica*, Feb. 1987, 54(213), pp. 89-96. Norwegian School of Economics and Business Administration, Bergen.

Sheen, Jeffrey—Inflation Debt and Fiscal Policy Attitudes

Using a model of intertemporally optimizing households, this paper establishes that fiscal policy needs to be endogenous to preempt instability if one wishes to permit any combination of money and debt finance. Conservative governments enforce a greater margin of preemption than liberal governments. This distinction can generate very different short- and long-run effects on inflation when exogenous financial and fiscal policy variables are altered. *Oxford Econ. Pap.*, Mar. 1987, 39(1), pp. 90-110. University of Essex.

Soofi, Abdollah S. and Parvin, Kumars—The Import Leakage Effect and the Effectiveness of Fiscal Policy: An Input-Output Analysis

A suggested methodology to measure import leakage magnitude from an economy within the framework of an input-output transactions table, which does not distinguish between domestic and imported inputs, is the paper's objective. The model estimated import leakages due to increased government spending using an Iranian input-output table for 1973-74. Due to the 1974 import structure of the Iranian economy, government fiscal policy (mainly government spending) had a substantially limited effect controlling aggregate demand. The model simulation indicates magnitude of total import leakage for all industries was 20 percent of the estimated increase in 1977 government spending. *Public Finance*, Dec. 1986, 41(3), pp. 430-39. University of Wisconsin-Platteville; San Jose State University.

Steedman, Ian—Produced Inputs and Tax Incidence Theory

In the widely used 2×2 general-equilibrium analysis of tax incidence the treatment of "capital" is often obscure: when it is clarified, many familiar results from that analysis are found to be invalid. With land, labor, produced inputs, and a zero rate of interest, factor-tax results hold good but excise-tax results do not; with a positive rate of interest, no useful incidence results are available. In a model with a given labor supply and a given total value of capital, the standard incidence theorems are again invalid. *Public Finance*, Dec. 1986, 41(3), pp. 331-49. University of Manchester.

Stern, Nicholas H.—The Effects of Taxation, Price Control and Government Contracts in Oligopoly and Monopolistic Competition

Many government contracts with, or policies toward, oligopolistic sectors essentially involve private firms selling a given proportion or quantity of output to the government at a fixed price with the remainder being sold on the open market. Often this is combined with consumer rationing. Examples include cement and sugar in India and health, housing, and defence in many countries. The paper investigates the effects of these schemes (including sales and excise taxation) on prices, output, and household welfare under oligopoly and monopolistic competition. Less government control may raise prices and tax shifting can be above or below 100 percent. *J. Public Econ.*, Mar. 1987, 32(2), pp. 133-58. London School of Economics.

Yunker, James A.—A Supply Side Analysis of the Laffer Hypothesis

The "strong Laffer hypothesis" holds that current tax rates are so high that reducing them will increase tax revenue; the "generalized Laffer hypothesis" holds that current tax rates are so high that reducing them will increase social welfare. These hypotheses are investigated using an explicit-function model incorporating a Cobb-Douglas production function, constant elasticity factor-supply functions, and a single "aggregate average tax rate." Innovations in the analysis include adding the capital-supply consideration, allowing for the possibility of negative factor-supply elasticities, and including a

parameter representing the current social-welfare value of public versus private spending. *Public Finance*, Dec. 1986, 41(3), pp. 372-92. Western Illinois University.

322 National Government Expenditures and Budgeting

Bernholz, Peter—Growth of Government, Economic Growth and Individual Freedom

After presenting some facts about the growth of government in Western industrialized countries, possible causes of this development are analyzed from a public-choice perspective. Next, some empirically tested theories which seek to explain this growth are discussed. Finally, possible consequences for efficiency and individual liberty are examined. It is shown that both the number and size of interest groups (age of democracy) as stated by Mancur Olson (1982) and the increasing share of government expenditure in GDP seem to exert a negative influence on the growth rate of GDP. *J. Inst. Theoretical Econ.*, Dec. 1986, 142(4), pp. 661-83. University of Basel, Switzerland.

Eisner, Robert and Pieper, Paul J.—Dette et déficit gouvernementaux: mesures et effets (Measurement and Effects of Government Debt and Deficits)

Budget deficits in the United States and six OECD nations are adjusted for inflation so as to correspond to changes in real net debt. Adjusted high-employment or cyclically-corrected deficits are then found to be positively related, and more clearly and sharply than unadjusted deficits, to subsequent increases in real output and, in the United States, to decreases in unemployment. The adjusted U.S. deficit contributes significantly to OECD growth in GDP. *Ann. Econ. Statist.*, July/Sept. 1986, (3), pp. 27-52 (French). Northwestern University; University of Illinois, Chicago.

Ram, Rati—Causality between Income and Government Expenditure: A Broad International Perspective

Using a good procedure and internationally comparable data for the period 1950-80 in respect of sixty-three countries, an investigation is conducted of Granger causality between (1)

GDP per capita and share of general government in GDP and (2) GDP per capita and government expenditure per capita. Although much variation is observed in the patterns of causality across various countries, a rough generalization would seem to be that very limited support is found for the direction of causality implicit in Adolph Wagner's (1890) hypothesis, and support is also lacking in most cases for the causal order implied by several common macroeconomic models. *Public Finance*, Dec. 1986, 41(3), pp. 393-414. Illinois State University.

Ram, Rati—Wagner's Hypothesis in Time-Series and Cross-Section Perspectives: Evidence from "Real" Data for 115 Countries

Internationally comparable data on income and government expenditure for 115 countries, covering the period 1950-80, are used to assess the validity of Wagner's hypothesis. Individual country time-series data and several intercountry cross sections are studied. Besides a tremendous diversity in the position for various countries, the results indicate that while there is support for the hypothesis in some time-series data sets, such support is lacking in most cross-section estimates. Much of the support for the hypothesis reported in many earlier studies, therefore, was probably due to either use of limited samples or inadequate data comparability across the observations studied. *Rev. Econ. Statist.*, May 1987, 69(2), pp. 194-204. Illinois State University.

Spaventa, Luigi—The Growth of Public Debt: Sustainability, Fiscal Rules, and Monetary Rules

This paper first addresses the question of the sustainability of debt growth by examining the behavior of taxation implied by fiscal rules that respect a government's intertemporal budget constraint. Sustainable debt growth may require the tax burden to rise above some socially acceptable level. In this case, whereas drastic remedies may prove ineffective, a more relevant choice regards the degree of monetary financing of the deficit (as distinct from monetization of the debt), which affects the dynamics of taxation implied by the constraint. Monetary financing is then introduced into a model by

Olivier J. Blanchard, and the effects of monetary financing on the interest rate and capital intensity are examined. Finally, some policy implications are considered. *Int. Monet. Fund Staff Pap.*, June 1987, 34(2), pp. 374-99. University of Rome, Italy.

Tullio, Giuseppe—Long Run Implications of the Increase in Taxation and Public Debt for Employment and Economic Growth in Europe

This paper analyzes the major channels through which the sharp rise in taxation and public debt may have influenced European employment and per capita GNP. Its theme is that, since labor unions possess some degree of monopoly power in Europe, taxes have been shifted forward into higher real labor costs. As the long-run elasticity of the demand for labor with respect to the real product wage is high, employment has fallen. The less workers value higher government expenditure, the more they will resist a decline in after-tax real wage rates when these expenditures rise. The paper also examines how taxation, government expenditure, and public debt affect household savings. *Europ. Econ. Rev.*, Apr. 1987, 31(3), pp. 741-74. Commission of the European Communities, Brussels.

323 National Taxation, Revenue, and Subsidies

Bovenberg, A. Lans—Indirect Taxation in Developing Countries: A General Equilibrium Approach

Indirect taxes are an important element in stabilization tax packages that aim to raise revenue in the short run. This paper evaluates, by using a general-equilibrium model, alternative instruments of indirect taxation in middle-income developing countries. It uses data for Thailand as an illustration and examines the effects on revenue, efficiency, equity, and international competitiveness. The paper shows that the interaction between taxes and the distortions caused by various policies can be important for revenue and efficiency. It also reveals significant backward shifting and a link between outward-looking, supply-side tax policies and trade policies in industrial countries. *Int. Monet. Fund Staff Pap.*, June 1987, 34(2), pp. 333-73. International Monetary Fund, Washington, D.C.

Hansmann, Henry—The Effect of Tax Exemption and Other Factors on the Market Share of Nonprofit versus For-Profit Firms

Most jurisdictions exempt nonprofit firms from property, sales, and corporate income taxes in various industries, such as health care and education, in which both nonprofit and for-profit firms compete. Cross-section estimates using state tax data indicate that these exemptions significantly increase the market share of nonprofit firms vis-à-vis their for-profit counterparts. The relative market shares of nonprofit and for-profit firms is also affected by rapid increases in demand for an industry's services and by the size of the governmental sector. *Nat. Tax J.*, Mar. 1987, 40(1), pp. 71-82. Yale University.

Long, James E. and Caudill, Steven B.—The Usage and Benefits of Paid Tax Return Preparation

By analyzing a national sample of federal individual income-tax returns, the authors are able to identify important determinants of whether a taxpayer uses an accountant or other professional tax-return preparer. The results confirm previous findings that upper-income taxpayers, the elderly, and self-employed workers are more likely to use a paid preparer than other taxpayers. They also find that professional tax assistance is directly related to the complexity of the tax return and the marginal tax rate on income. Income-tax liability is relatively lower on paid-preparer than self-prepared returns with the same income, filing status, and other characteristics, suggesting that professional tax assistance saves taxpayers money as well as time. *Nat. Tax J.*, Mar. 1987, 40(1), pp. 35-46. Auburn University.

Stewart, Marion B.—U.S. Tax Policy, Intra-firm Transfers, and the Allocative Efficiency of Transnational Corporations

A dynamic-programming model of a transnational corporation is constructed under the assumption that the firm's objective is to maximize the after-tax present worth of the parent company's shareholders. It is found that current U.S. tax policy leads to an allocatively inefficient investment schedule and may cause firms to choose factor proportions that deviate from

the cost-minimizing ratio. Repeal of the current tax-deferral provision will lead to a more efficient investment strategy, but complete repeal of the foreign tax credit does not appear desirable unless maximization of U.S. tax receipts is deemed to be of overriding importance. *Public Finance*, Dec. 1986, 41(3), pp. 350-71. Rutgers University.

Strauss, Robert P. and Wittenberg, Uriel—Price and Quantity Effects of Tax Reform: An Application to West Virginia

This paper extends a methodology for ascertaining the industry-by-industry effects of tax changes on prices suggested originally by Henry Aaron. The extension utilizes assumptions about the nature of final demand and allows one with an input-output table to derive the total effects of such tax changes in terms of quantities of output as well as employment. The new methodology is applied to West Virginia which substantially reformed its system of gross receipts taxation. The resulting analysis predicts a modest increase in output (+0.2 percent), and a modest decline in the price level (from -0.1 to -2.0 percent) as a result of the reforms enacted in 1985, and scheduled to take effect in mid-1987. *Nat. Tax J.*, Mar. 1987, 40(1), pp. 83-94. Carnegie-Mellon University.

Wakefield, Joseph C.—The Tax Reform Act of 1986

The Tax Reform Act of 1986 put in place the most sweeping revision in the history of tax law. This article discusses the major provisions of this act, and presents estimates of the impact of those provisions on personal tax and nontax receipts, corporate profits tax accruals, and other categories of Federal receipts and expenditures on the national income and product accounts basis. *Surv. Curr. Bus.*, Mar. 1987, 67(3), pp. 18-25. U.S. Department of Commerce, Washington, D.C.

324 State and Local Government Finance

Blay, Andrew R.; Giarrantani, Frank and Spiro, Michael H.—Incidence of the Amusement Tax

A number of U.S. Cities impose an "amusement" tax on the gross receipts of entertainment establishments, in part as a means of taxing

suburbanites for the city services they utilize. This paper analyzes the incidence of this form of taxation within three major sectors of the urban entertainment industry. Given the authors' assumptions, the analysis concludes that taxes of this kind may not be shifted forward at all (sports franchises), or are only partially shifted (not-for-profit concert and theater series), or are only partially shifted in the long run (movie theaters). *Nat. Tax J.*, Mar. 1987, 40(1), pp. 61-69. University of Pittsburgh.

Feenberg, Daniel R. and Rosen, Harvey S.—Tax Structure and Public Sector Growth

It has been hypothesized that a jurisdiction's tax structure exerts an independent effect upon the growth of its public sector. The authors test this hypothesis by examining the relationship between the growth of state general expenditure and the elasticity of tax revenues with respect to income. The work takes advantage of a very careful set of income elasticities for the personal income and sales tax systems for each state, for every year from 1978 to 1983. The data do not support the notion that the form of the tax structure exerts an independent effect on public sector growth. *J. Public Econ.*, Mar. 1987, 32(2), pp. 185-201. National Bureau of Economic Research; Princeton University and National Bureau of Economic Research.

Sexton, Terri A.—Forecasting Property Taxes: A Comparison and Evaluation of Methods

Local governments usually face strict budget-balancing requirements wherein access to accurate revenue forecasts is an evident asset to the budgetary process. However, present local government forecasting practice consists mainly of judgmental methods or simple trend projections. This paper focuses on property taxes, the dominant local government revenue source and identifies, critiques, and evaluates three econometric and statistical alternatives to the present forecasting practice: (1) traditional income elasticity methods; (2) a structural econometric model; and (3) time series or ARIMA methods. Forecast evaluation results for 1981-83 for Minnesota counties affirm the structural model's superiority for single- and multiple-year forecasts, but all of the statistical and econometric methods outperformed the trend

model. *Nat. Tax J.*, Mar. 1987, 40(1), pp. 47-59. University of California, Davis.

400 International Economics

410 INTERNATIONAL TRADE THEORY

411 International Trade Theory

Barry, Frank G.—Fiscal Policy in a Small Open Economy: An Integration of the Short-run, Heckscher-Ohlin and Capital Accumulation Models

This paper presents a two-sector model of a small open economy with persistent classical unemployment, and studies its response to government expenditure policies which may be either temporary or permanent, and anticipated or unforeseen. The analysis serves to clarify the relationship between the effects described by the Heckscher-Ohlin and short-run, sector-specific, capital models by embedding both within a more general model of two-sector growth. The perspective developed here stands in sharp contrast to the conventional interpretation of these models as describing consecutive rather than alternative transition stages of the economy. *J. Int. Econ.*, Feb. 1987, 22(1/2), pp. 103-21. University of California, Irvine.

Beladi, Hamid and Naqvi, Nadeem—The Theory of Interindustry Wage Differentials: An Intertemporal Analysis

The authors develop an "intertemporal," two-period, two-sector, specific factor model, characterized by generalized wage differentials, and show that a number of pathological results in the domestic distortions literature are all but eliminated. In this model, in contrast to the standard two-sector model, savings and investment are endogeneously determined, and trade is not always balanced. They also obtain results pertaining to the implications of wage differentials for the pattern and volume of investment, and the balance-of-trade in the current account. *Can. J. Econ.*, May 1987, 20(2), pp. 245-56. Central Michigan University.

Burgstaller, André—Europe's Industrialization and Colonial Underdevelopment in the Light of Ricardo's Corn Model

The paper discusses the dynamics of sectoral resource allocation in an extension of Ricardo's

corn model to a North-South world system. It is shown that free trade and capital mobility in the presence of capital accumulation must entail, in the flexible-wage metropolis, a secular shift of resources out of agriculture into manufacturing, accompanied by real wage growth; in the labor-surplus colonies, a necessary expansion of commercial agriculture but an ambiguous evolution of manufacturing output and employment, giving rise to the possibility of a secular contraction in overall colonial market employment. *J. Int. Econ.*, Feb. 1987, 22(1/2), pp. 157-69. Barnard College, Columbia University.

Choi, Jai-Young—Nontraded Goods, Variable Returns to Scale and Welfare

This paper examines the welfare implications of a change in the terms of trade and the rate of tariff, as well as the optimal trade policy for a small country in a three-commodity (two traded and one nontraded) and two-factor model that integrates variable returns to scale. It is shown that three factors, ranking among industrial elasticities of returns to scale, factor intensities, and price-output response, play a major role in determining the fate of the standard results regarding gains from trade. In addition, the optimum tariff for a small economy is derived. *Southern Econ. J.*, Apr. 1987, 53(4), pp. 874-83. Lamar University.

Clarete, Ramon L. and Roumasset, James A.—A Shoven-Whalley Model of a Small Open Economy: An Illustration with Philippine Tariffs

This paper describes an applied general-equilibrium model of a price-taking economy in both imports and exports. Sector-specific factors are incorporated to avoid complete-specialization problems. A Hicksian composite traded good market is used for achieving trade balance in the model. Foreign and domestic goods are assumed perfect substitutes. For illustration, Philippine tariffs and export taxes are analyzed using the model. *J. Public Econ.*, Mar. 1987, 32(2), pp. 247-61. University of Western Ontario; University of Hawaii.

Eaton, Jonathan—A Dynamic Specific-Factors Model of International Trade

In a dynamic economy, land and capital serve not only as factors of production but as assets which individuals use to transfer income from working periods to retirement. Changes in the terms of trade and in the endowments of fixed factors do not necessarily have the same effects on factor prices and on the composition of output as they do in a static framework. Results derived from the traditional specific-factors model are more likely to emerge when the sector using land as a factor of production has a higher labor share than the sector using capital. *Rev. Econ. Stud.*, Apr. 1987, 54(2), pp. 325-38. University of Virginia and National Bureau of Economic Research.

Flam, Harry and Helpman, E.—Industrial Policy under Monopolistic Competition

The authors study the general equilibrium effects of tariffs, export subsidies, output subsidies, and R & D subsidies in a monopolistically competitive sector that produces differentiated products. Apart from allocative effects, the authors examine the desirability of these policies from a welfare point of view. It is shown that a small tariff is welfare improving, but that the other instruments result in ambiguous welfare changes. The results depend on identifiable details of the production structure, the sectoral interlinkages through factor markets, and preferences. These results are compared to other discussions in the literature. *J. Int. Econ.*, Feb. 1987, 22(1/2), pp. 79-102. Institute for International Economic Studies, University of Stockholm; Tel-Aviv University.

Gros, Daniel—Protectionism in a Framework with Intra-industry Trade: Tariffs, Quotas, Retaliation, and Welfare Losses

This paper uses Krugman's (1980) model of trade with product differentiation and monopolistic competition to determine the effects of various protectionist measures and concludes that: export and import tariffs are equivalent; quotas are equivalent to tariffs if firms cannot price discriminate between markets (a quota that reduces the market share of imports by 50 percent is equivalent to a tariff of 47 percent); and welfare losses from protectionism are substantial (a "voluntary" export restraint agreement limiting imports by 10 percent causes a

consumer welfare loss in the home country equivalent to a drop in national income of 2 percent). *Int. Monet. Fund Staff Pap.*, Mar. 1987, 34(1), pp. 86-114. Centre for European Policy Studies, Brussels, Belgium.

Kuhn, Peter and Wooton, Ian—International Factor Movements in the Presence of a Fixed Factor

To the basic model of international factor mobility is added a third immobile factor. Unlike the basic model, the factor flows that result from a policy of free mobility are now uniquely determined. Additionally, a large variety of privately optimal national policies is predicted, each dependent upon the country's endowment pattern and the fiscal instruments available to it. Several of the predicted policies, e.g. subsidies paid to migrant factors and simultaneous restrictions on the export of both factors, are incompatible with the basic model. *J. Int. Econ.*, Feb. 1987, 22(1/2), pp. 123-40. University of Western Ontario.

Naqvi, Nadeem—Endogeneous Investment, Current Account and the Rybczynski Theorem

The author extends the standard single-period, two-sector, two-factor model of production and factor allocation to a two-period setting and, in the process, introduces endogenous savings and endogenous investment into the two-sector model. This is done in such a way that the model can be readily compared with the two-sector model used in trade theory. In addition, the intertemporal formulation of the model enables the analysis of domestic investment and the current account imbalance in the context of the pure theory of international trade. Using this model, some Rybczynski-type propositions are derived. *Southern Econ. J.*, Apr. 1987, 53(4), pp. 925-33. Central Michigan University.

Tamor, Kenneth L.—An Empirical Examination of the Factor Endowments Hypothesis

Cross-country regression of net exports on factor endowments has suggested that endowments provide a good explanation of international trade patterns in manufactures. This paper examines whether endowments explain the

composition of manufacturing activity, as is proposed for the most policy-relevant versions of the Heckscher-Ohlin-Samuelson model, or merely the level of manufacturing activity. Application of the cross-country method to output data suggests that endowments do not provide a good explanation of composition. *Can. J. Econ.*, May 1987, 20(2), pp. 387-98. Southern Illinois University.

Tranjoy, Alain—Paradoxe global des transferts et multiplicité des équilibres: deux résultats (Global Transfer Paradox and Multiplicity of Equilibria: Two Results)

The author proves two results for exchange economies with l goods, n individuals without any differentiability assumption: (1) the multiplicity of equilibria for at least one initial allocation is a necessary condition for the existence of the global transfer paradox; and (2) the multiplicity of equilibria for at least one initial allocation is a sufficient condition for the existence of the global transfer paradox. *Ann. Econ. Statist.*, Oct./Dec. 1986, (4), pp. 53-61 (French). University of Rennes-I and GREQE, UER de Sciences Économiques, Rennes.

420 TRADE RELATIONS; COMMERCIAL POLICY; INTERNATIONAL ECONOMIC INTEGRATION

421 Trade Relations

Antonelli, Cristiano—The International Diffusion of Process Innovations and the Neotechnology Theory of International Trade

Econometric results confirmed that the capacity of a country to adopt new capital equipment in a timely manner is a major determinant of its performances on international markets together with traditional country and industry specific variables. This result stresses the role of technological change in assessing international competitiveness in a commodity wrongly defined as a "Heckscher-Ohlin good." *Econ. Notes*, Apr. 1986, (1), pp. 60-83. Politecnico of Milan, Italy.

Bond, Marian E.—An Econometric Study of Primary Commodity Exports from Developing Country Regions to the World

This paper studies the flow of primary-commodity exports from non-oil exporting developing countries grouped by geographical region.

The first part analyzes the changes in the structure of developing-country commodity exports that have taken place over the past two decades. The second part presents empirical evidence on the response of commodity exports to demand and supply. These empirical results point to the low price and income elasticities of demand for certain primary-commodity exports and to price elasticities of supply that are in general lower than the corresponding price elasticities of demand in the short run, but that are more sensitive to price in the longer run. *Int. Monet. Fund Staff Pap.*, June 1987, 34(2), pp. 191-227. International Monetary Fund, Washington, D.C.

Dauderstädt, Michael—Internationale Konkurrenz und Wohlfahrtsstaat. Überlegungen am Beispiel Portugal (International Competition and the Welfare State—The Case of Portugal)

Since the mid-1970s, conservative economists and politicians have increasingly considered the welfare state responsible for the international crisis and the economic decline of nations. Empirical evidence covering the 1950s and 1960s does not corroborate this view. For the more competitive international environment since 1973, the above assumption is tested by a case study of Portugal. The results show that balance-of-payments problems and a loss of competitiveness can be explained by international growth and inflation differentials, overvaluation of the Escudo, and ill-timed expansionary fiscal policies rather than by the redistributive effects of social reform. *Konjunkturpolitik*, 1986, 32(6), pp. 349-80 (German). Instituto de Estudos para o Desenvolvimento, Portugal.

Greenaway, David and Milner, Chris—Intra-industry Trade: Current Perspectives and Unresolved Issues

Intraindustry trade has been a frontier area for researchers in international economics over the last twenty-five years. This paper attempts to take stock of what is now a voluminous literature and to identify areas where researchers might fruitfully direct their attention in the near future. The paper focuses on work on theory, measurement, empirical analysis, and policy as-

pects. For each of these areas current perspectives are identified and unresolved issues discussed. The paper concludes that intraindustry trade has been a progressive research program, and that an extensive range of issues remain to be explored. *Weltwirtsch. Arch.*, 1987, 123(1), pp. 39–57. University College at Buckingham; University of Loughborough.

Lebkowski, Maciej and Monkiewicz, Jan—Information Industries in the CMEA Countries: A Foreign Trade Dimension

CMEA countries constitute so far a periphery of the world information goods market. This results both from the low degree of their production internationalization as well as the overwhelmingly regional orientation of their trade flows. This regionalization of the trade flows in data goods exceeds significantly the level recorded in their overall trade relations. Such a situation is a reflection of a policy orientation of the CMEA countries justified by the strategic importance of the industries in question. A peculiar feature of the CMEA data goods market is the decisive role of the Soviet import demand for trends and patterns in regional manufacturing and trade. *Konjunkturpolitik*, 1986, 32(5), pp. 308–24. University of Hamburg; Polytechnics Warsaw.

Nagy, András—Changes in the Structure and Intensity of East–West Trade

The first part of the article summarizes the changes in the European socialist countries' strongly aggregated import and export trade patterns between 1960 and 1980, with special regard to the trade with the advanced industrial countries. The second part quantifies the effects of trade policy on East–West trade relations during the same period. The effect of political factors hindering East–West trade has been found to be very strong, the political estrangement of the 1980s and the strengthening of protectionist tendencies may stop or set back earlier improvements. *Acta Oecon.*, 1985, 35(3–4), pp. 359–75. Institute of Economics, Hungarian Academy of Sciences, Budapest.

Oblath, Gábor and Pete, Péter—Trade with the Soviet Union: The Finnish Case

Finno–Soviet trade is a special part of East–West economic relations. The volume of trade between the two countries is exceptionally large and its institutional system is similar to that of trade among socialist countries. The volume and pattern of Finno–Soviet trade is based on intergovernmental agreements containing quotas for exports and imports, and payments between the two countries are settled through a bilateral clearing system. However, the advantages of the Finno–Soviet trade for Finland is not attributable to the special domestic regulation of bilateral trade, but to the vitality and the ability of the Finnish economy to adjust to different needs and institutional frameworks. *Acta Oecon.*, 1985, 35(1–2), pp. 165–94. Institute for Economic and Market Research, Budapest; Institute of Economics, Hungarian Academy of Sciences, Budapest.

Sarkar, Prabirjit—The Singer–Prebisch Hypothesis: A Statistical Evaluation

The statistical objections raised against the Singer–Prebisch thesis regarding the secular decline in the terms of trade of primary products in relation to manufactures, do not have as sound a basis as is generally supposed they have on *a priori* grounds. The projection of that historical experience into the post-war years as made by H. W. Singer and R. Prebisch also holds good until the oil crisis years of the 1970s; it would hold true up to 1983 if oil and OPEC are excluded as a special case. With the decline in the terms of trade of primary products, the trading terms of the developing region vis-à-vis the developed one also deteriorated. In view of increasing manufacture exports by the developing region, it is doubtful how far the two terms-of-trade indexes will move in the same direction. *Cambridge J. Econ.*, Dec. 1986, 10(4), pp. 355–71. Calcutta University.

Whichard, Obie G.—U.S. Sales of Services to Foreigners

The Bureau of Economic Analysis has recently undertaken to improve and expand its statistical information on U.S. international trade and investment in services. This effort, in support of the increased emphasis on services in U.S. trade policy, is designed to improve the information on services included in the U.S.

international transactions accounts. This article outlines the Bureau's data improvement program and presents new data on sales of services by U.S. multinational companies. These new data indicate that most services sold by U.S. multinational companies to foreigners during 1982-84 were from foreign affiliates rather than the U.S. parent. *Surv. Curr. Bus.*, Jan. 1987, 67(1), pp. 22-41. U.S. Department of Commerce, Washington, D.C.

Winters, L. Alan—An Empirical Intertemporal Model of Developing Countries' Imports

This paper specifies and estimates an intertemporal model of total imports for three developing countries. Imports are related to current and expected values of foreign-exchange receipts, import prices, and interest rates. For two out of the three countries the intertemporal model appears best, while for the third it is (just) dominated by another financial model. The paper shows: that financial variables explain most of the variance in developing countries' imports; that there is a substantial degree of intertemporal substitution; and that poorer countries have higher rates of time discount than richer ones. *Weltwirtsch. Arch.*, 1987, 123(1), pp. 58-80. University of North Wales.

Zilberfarb, Ben-Zion—The Effect of Relative Exchange and Market Growth Rates on the Geographic Allocation of Exports: More Empirical Evidence

Based on a pooled cross-section, time-series data set for Israeli industrial exports in 1982 and 1983, this study provides empirical support for the hypothesis that exporters respond to changes in relative exchange rates and market conditions in export markets when deciding on the geographical allocation of their exports. These factors explain over 88 percent of the variance in the U.S. share in Israel's industrial exports in the 1982 to 1983 period. *Quart. J. Bus. Econ.*, Summer 1987, 26(3), pp. 96-101. Vanderbilt University.

422 Commercial Policy

Boyd, Roy and Krutilla, Kerry—The Welfare Impacts of U.S. Trade Restrictions against the Canadian Softwood Lumber Industry: A Spatial Equilibrium Analysis

In this paper the authors estimate the production and welfare impacts of various U.S. trade restrictions on Canadian lumber. After building a model which incorporates the regional character of the North American lumber market, the authors simulate a variety of tariffs and quotas now advocated by a number of U.S. lawmakers. They find that the tariff losses incurred by Canadian producers could be substantial, depending on the elasticity of their export supply. Voluntary restraint agreements, however, might lead to Canadian gains as high as 40 percent of their preexisting profits. *Can. J. Econ.*, Feb. 1987, 20(1), pp. 17-35. United States Department of Agriculture, Washington, D.C.; Duke University.

Clark, Don P.—Regulation of International Trade in the United States: The Tokyo Round

A model based on the economic theory of regulation is used to explain the interindustry pattern of tariff protection that emerged from the Tokyo Round. Although tariff reductions were modest and were conducted in large part using a harmonization tariff-cutting formula, evidence reported here suggests that domestic pressure groups were able to exercise influence over post-Tokyo Round tariff levels. Results of this analysis provide support for the Marvel-Ray tariff formation model. *J. Bus.*, Apr. 1987, 60(2), pp. 297-306. University of Tennessee.

Collins, Charles and Dunaway, Steven—The Cost of Trade Restraints: The Case of Japanese Automobile Exports to the United States

This paper assesses the extent to which restraints on exports of Japanese automobiles to the United States affected car sales and prices in the period 1981-84. The estimates are based on a model of the U.S. automobile sector that allows for the effects of the quotas on the average quality of cars purchased in order to distinguish between pure price effects and quality effects. The results presented in the paper suggest that the restraints had a substantial impact on automobile prices (adjusted for quality improvements) and thus imposed a heavy welfare cost on the U.S. economy. *Int. Monet. Fund Staff Pap.*, Mar. 1987, 34(1), pp. 150-75. International Monetary Fund, Washington, D.C.

Giersch, Herbert—*Weltwirtschaftliches Wachstum durch Liberalisierung* (Global Economic Growth by Liberalization)

The United States and East Asia have extricated themselves more quickly from the relative stagnation of the 70s and early 80s than Europe, which suffers from more rigidities and still lacks sufficient downward flexibility of real wages. To revitalize its economy, Europe has to free its markets from state regulations and make them more accessible to domestic and international competition. With a swift trade liberalization, Europe—and the world—could tap a large source of productivity growth. In order to facilitate the import-induced decline of old industries, free activity zones should be established in the affected regions. *Kyklos*, 1986, 39(4), pp. 518–36 (German). Institut für Weltwirtschaft, Universität Kiel, Germany.

MacPhee, Craig R.—The Consistency of Partial Equilibrium Estimates of Trade Creation and Diversion

The author evaluates several empirical studies which have predicted different outcomes for preferential trade arrangements as a result of Tokyo Round tariff cuts. Some of the elasticities used in the empirical models are found to be inconsistent with their underlying assumptions. Consistent values for the elasticities are derived, and these are used to show how some empirical estimates may differ. The importance of the aggregation problem in such studies is also assessed. *Weltwirtsch. Arch.*, 1987, 123(1), pp. 81–92. University of Nebraska, Lincoln.

Ray, Edward John—The Impact of Special Interests on Preferential Tariff Concessions by the United States

This paper provides empirical evidence on the relative impact of the generalized system of preferences, adopted in 1975, and the Caribbean Basin Initiative, adopted in 1983, on the pattern of U.S. imports of manufactured goods from the target areas at the four-digit level in 1984. Imports from Brazil, Mexico, South America, the Caribbean Basin, and all eligible countries are each analyzed. The author provides evidence that existing preferential agreements have failed to offset the bias in U.S. protection against competitive exports from

developing countries and explains why one might have predicted such an outcome. *Rev. Econ. Statist.*, May 1987, 69(2), pp. 187–93. Ohio State University.

Rousslang, Donald J.—The Opportunity Costs of Import Tariffs

Existing estimates of the welfare cost of import tariffs ignore the social cost of replacing the tariff revenue with another tax. As a practical matter, this is an important omission because the alternative tax might entail a substantial welfare cost. This paper examines the relative efficiency of import tariffs and existing domestic taxes. As a case study, comparisons are made between the welfare cost imposed by replacing the tariff revenue using the alternative domestic taxes in the United States. It is found that the alternative U.S. domestic taxes are probably less efficient than U.S. tariffs. *Kyklos*, 1987, 40(1), pp. 88–102. International Trade Commission, Washington D.C. and George Washington University.

430 INTERNATIONAL FINANCE

431 Open Economy Macroeconomics; Exchange Rates

Adams, Charles and Gros, Daniel—The Consequences of Real Exchange Rate Rules for Inflation: Some Illustrative Examples

This paper examines consequences of real exchange-rate rules for the control of inflation in the context of several popular macroeconomic models. It argues that the authorities will not be able to achieve any target for inflation if they follow such a rule, depreciating the nominal exchange rate in line with the difference between world and domestic inflation. Following a real exchange-rate rule serves to index both the nominal exchange rate and, through the balance of payments, the money supply to the price level. Thus there is no exogenous nominal anchor to tie prices down. *Int. Monet. Fund Staff Pap.*, Sept. 1986, 33(3), pp. 439–76. International Monetary Fund, Washington, D.C.; Centre for European Policy Studies, Brussels.

Bhandari, Jagdeep S. and Decaluwe, Bernard—A Stochastic Model of Incomplete Separation between Commercial and Financial Exchange Markets

This paper constructs a framework that is suitable for the analysis of a dual exchange market regime characterized by intermarket leakage. The model incorporates the fact that in reality certain proportions of both trade-account and service-account items are settled in the financial market on account of both legally-sanctioned leakage and fraudulent transactions. The model is utilized to investigate the dynamic and static proportion of the economy with respect to the degrees of export, import, and service account leakage as well as with respect to other parameters of interest. *J. Int. Econ.*, Feb. 1987, 22(1/2), pp. 25-55. West Virginia University; University of Laval, Quebec.

Biasco, Salvatore—Currency Cycles and the International Economy

This article argues that, if all available information is not conveyed through prices, portfolio adjustment is gradual and the currency market does not reflect a continuous stock equilibrium. A sequence is described in which the divergence or convergence of different signals from the real and financial markets guides the financial choices of agents with different time horizons, and produces a cycle of the exchange rate between key currencies. Certain endogenous characteristics of economic policy strengthen the cycle. Currency cycles are not neutral from the sectoral point of view and cannot be analyzed separately from the sectoral dynamics which they produce. *Banca Naz. Lavoro Quart. Rev.*, Mar. 1987, 40(160), pp. 31-60. Università degli Studi di Roma "La Sapienza," Rome.

Blackburn, Keith—Interest Parity, the Degree of Capital Mobility and the Information Contents of the Exchange Rate and the Interest Rate: Clarifications and Extensions

This paper explores the role of the exchange rate and the interest rate as information variables in a small macroeconomic model under conditions of perfect and imperfect capital mobility. It is shown that, despite the intimate relationship between these variables via interest parity, the information content of each is generally different, the nature of this information being crucially dependent upon the degree of capital mobility. Implications are drawn for the dynamic behavior of the exchange rate and

prices. An implication of the analysis focuses on the role of policies designed to alter the degree of capital mobility. *Manchester Sch. Econ. Soc. Stud.*, Mar. 1987, 55(1), pp. 60-76. University of Southampton.

Buiter, Willem H.—Macroeconomic Policy Design in an Interdependent World Economy: An Analysis of Three Contingencies

This paper uses an analytical two-region (United States and "rest of industrial world") model to analyze three issues in international macroeconomic interdependence and policy coordination: What should be the monetary/fiscal response in other industrial countries to tightening U.S. fiscal policy, and what should be the U.S. monetary response? What should be the U.S. and industrial world's monetary/fiscal responses to a collapse of the dollar? What should be the macroeconomic policy response to disappointing real growth performance? Correct identification of the cause(s) for a "hard landing" of the dollar and for disappointing real growth is crucial to appropriate policy responses. *Int. Monet. Fund Staff Pap.*, Sept. 1986, 33(3), pp. 541-82. Yale University.

Büttler, Hans-Jürg and Schips, Bernd—Equilibrium Exchange Rates in a Multi-country Model: An Econometric Study

In this paper equilibrium exchange rates are computed in a multi-country econometric model for the U.S. dollar, Japanese yen, German mark, Canadian dollar, pound sterling, Swiss franc, and a composite currency for the rest of the world. The simulation of the model, which is fully interdependent with regard to bilateral exchange rates, is not possible for all points of time even though the model is locally stable. It is shown that neither the total current account balance nor the bilateral trade balance is a reliable measure of whether or not the bilateral exchange rates are overvalued. *Welt-wirtsch. Arch.*, 1987, 128(1), pp. 1-23. Swiss National Bank, Zurich; Forschungsstelle für Empirische Wirtschaftsforschung, St. Gallen.

Calvo, Guillermo A.—Real Exchange Rate Dynamics with Fixed Nominal Parities: Structural Change and Overshooting

The relationship between structural changes that require a modification of the steady-state level of the real exchange rate is examined in terms of a model of staggered prices and real-wealth effects. Although wealth effects are necessary for overshooting, it is shown that their actual values are of no particular relevance; in fact, overshooting is shown to be more likely, the smaller is the real-wealth effect in the demand for tradables. A key (and counterintuitive) result is that overshooting is more likely the higher the frequency of price changes. *J. Int. Econ.*, Feb. 1987, 22(1/2), pp. 141-55. Columbia University.

Frenkel, Jacob A. and Goldstein, Morris—A Guide to Target Zones

This paper identifies key issues surrounding the advisability and practicality of adopting "target zones" for exchange rates of major currencies. Among the issues discussed are: What is meant by a target zone approach to exchange rate management? What factors motivate the call for target zones? How might target zones remedy the perceived deficiencies of the existing system of managed floating? What factors are behind much of the opposition to target zones? How would the target zones be calculated? What currencies would be included? How wide should the zones be? How would actual exchange rates be kept within the target zones? *Int. Monet. Fund Staff Pap.*, Dec. 1986, 33(4), pp. 633-73. International Monetary Fund, Washington, D.C.

Greenwood, Jeremy and Kimbrough, Kent P.—An Investigation in the Theory of Foreign Exchange Controls

A choice-theoretic, cash-in-advance model is constructed to examine foreign-exchange controls. While foreign-exchange controls improve the trade balance and the balance-of-payments (or exchange rate) they reduce welfare for a distortion-free, small, open economy. This is because foreign-exchange controls essentially place a quota on imports. Shocks to the terms-of-trade are shown to be transmitted negatively to the domestic economy when exchange controls are in effect. Devaluations are found not to have real effects. Finally, it is argued that foreign-exchange controls are not the optimal

policy for attaining trade-balance objectives. *Can. J. Econ.*, May 1987, 20(2), pp. 271-88. University of Western Ontario; Duke University.

Gregory, Allan W.—Testing Interest Rate Parity and Rational Expectations for Canada and the United States

The purpose of this paper is to examine the joint hypothesis of interest-rate parity and rational expectations for Canada and the United States using monthly data. Two approaches to testing are considered: (1) the substitution method and (2) testing the cross-equation non-linear rational expectations restrictions from solving the interest-rate parity equation. It is demonstrated that standard application of the substitution method requires the assumption that the interest-rate parity equation holds deterministically. Tests for unit roots in the spot exchange-rate and interest-rate differentials are also investigated. *Can. J. Econ.* May 1987, 20(2), pp. 289-305. University of Western Ontario and Queen's University.

Hodrick, Robert J. and Srivastava, Sanjay—Foreign Currency Futures

The theoretical nature of risk premiums in foreign currency futures markets is derived and studied empirically. Estimation problems encountered in using futures data are discussed. Since forward rates and futures prices have been found to be approximately equal and because risk premiums in forward markets are highly variable, consistency of the data requires time variation in daily risk premiums in the futures market. Unbiasness of daily futures prices as predictors of the following day's futures price is rejected for all currencies. Reconciliation of daily and monthly data requires positive serial correlation in daily risk premiums. *J. Int. Econ.*, Feb. 1987, 22(1/2), pp. 1-24. Northwestern University; Carnegie-Mellon University.

Isard, Peter—Lessons from Empirical Models of Exchange Rates

This paper first discusses the relationships among exchange rates, national price levels, interest-rate differentials, and international bal-

ances of payments. These discussions provide perspectives on elements of truth that are consistent with the empirical failures of existing exchange-rate models. Other lessons discussed include the importance of analyzing exchange rates within complete macroeconomic frameworks and of assuming that expectations are generated through model-consistent processes. The paper raises questions about the validity of the uncovered interest-parity hypothesis and discusses approaches for distinguishing assets and specifying portfolio preferences in ways that have solid microeconomic foundations. *Int. Monet. Fund Staff Pap.*, Mar. 1987, 34(1), pp. 1-28. International Monetary Fund, Washington, D.C.

Ize, Alain and Ortiz, Guillermo—Fiscal Rigidities, Public Debt, and Capital Flight

This paper associates exchange-rate crises and capital flight with the possibility of default on public debt, resulting from fiscal rigidities. By including interest-bearing debt, both domestic and external, the model can generate the timing of an attack and can explain why domestic public bonds, even when perfectly indexed, cannot eliminate the possibility of a crisis. This fiscal framework provides explanations for the simultaneity of private capital flight and public foreign borrowing and the wide observed fluctuations in real exchange rates. The recent experience of Mexico is a particularly fitting illustration. *Int. Monet. Fund Staff Pap.*, June 1987, 34(2), pp. 311-32. International Monetary Fund, Washington, D.C.

Kamas, Linda—The Balance of Payments Offset to Monetary Policy: Monetarist, Portfolio Balance, and Keynesian Estimates for Mexico and Venezuela

Three balance-of-payments equations are specified and estimated for Mexico and Venezuela. While a large offset is found for Venezuela, there is no evidence of a significant offset for Mexico in the 1970s. However, it is shown that from 1951 to 1970, the offset was close to minus one, suggesting there was structural change in the 1970s. The estimated offset for Venezuela in the Keynesian equation is smaller than that in the monetarist equation, supporting arguments that the latter is biased toward

minus one. However, the long-run offset is minus one in accordance with both approaches. *J. Money, Credit, Banking*, Nov. 1986, 18(4), pp. 467-81. Wellesley College.

Lizondo, José Saúl—Unification of Dual Exchange Markets

This paper develops the model of an economy under a dual exchange system, comprising an official market in which the exchange rate is crawling at a constant rate and a free market in which the exchange rate is determined by market forces. After analyzing the behavior of the economy under the dual system, the paper discusses the effects that switching to a unified floating system or a unified crawling peg system has on the exchange rate and on the balance of payments, particularly in the short run. *J. Int. Econ.*, Feb. 1987, 22(1/2), pp. 57-77. Universidad Nacional de Tucumán, Casilla de correo 209, (4000) San Miguel de Tucumán, Argentina.

Masson, Paul R. and Knight, Malcolm—International Transmission of Fiscal Policies in Major Industrial Countries

This paper specifies a simple theoretical model of saving and investment behavior and estimates it with data for the United States, West Germany, and Japan over 1961-83. The model is then simulated to examine the effects of shifts in the fiscal deficits of those countries in 1982-85 and of investment incentives in the United States. The simulations indicate that these fiscal changes explain a substantial part of the dollar's appreciation against other major currencies, the high level of world interest rates, and current account developments in the three largest industrial economies over that period. *Int. Monet. Fund Staff Pap.*, Sept. 1986, 33(3), pp. 387-438. International Monetary Fund, Washington, D.C.

Rübel, Gerhard—Factors Determining External Indebtedness

The determinants of external indebtedness for a raw-material importing country are examined here using an intertemporal approach. It is shown that a rise in price of the raw-material import always leads to a real-income loss but not necessarily to a worsening of the current

account and therefore to external indebtedness. Rather, what is important is whether the price increase is seen as temporary or permanent or merely expected for the future. Other influences on external indebtedness, such as changes in interest-rate levels or government revenue and expenditure policies are also discussed. *Econ. Notes*, 1986, (3), pp. 101-21. University of Mannheim, West Germany.

Sarantis, Nicholas—A Dynamic Asset Market Model for the Exchange Rate of the Pound Sterling

The aim of this paper is to examine the influence of domestic foreign assets held by U.K. residents, as well as of North Sea oil, on the value of the pound sterling. Firstly, a theoretical model based on the portfolio-balance approach is developed. Subsequently, a disequilibrium version of this model is specified and then applied to five bilateral exchange rates vis-à-vis sterling. Several diagnostic statistics are employed for evaluating the regression results, which provide a satisfactory explanation of sterling's behavior and lend support to the approach adopted. *Weltwirtsch. Arch.*, 1987, 123(1), pp. 24-38. Thames Polytechnic School of Social Sciences, London.

Tarafás, Imre and Szabó, Judit—Hungary's Exchange Rate Policy in the 1980s

This article analyzes the development of the cost and price competitiveness of Hungarian exports between 1970 and 1984 by means of real effective exchange rate calculations. In the Hungarian economy, changes in exchange rate influence the price level while they only exert moderate effects on relative prices and relative incomes. It was found that there were market fluctuations in the development of real, effective exchange rates, but that these fluctuations do not influence Hungarian exporters' pricing behavior. The latter depends rather on the buoyancy of economic activity in external markets. *Acta Oecon.*, 1985, 35(1-2), pp. 53-79. National Bank of Hungary, Budapest.

Turnovsky, Stephen J.—Optimal Monetary Policy and Wage Indexation under Alternative Disturbances and Information Structures

The interdependence between the optimal degree of wage indexation and optimal monetary policy is analyzed for a small open economy under a variety of assumptions regarding: (1) relative information available to private agents and the stabilization authority; and (2) the perceived nature of the disturbances impinging on the economy. The distinctions between: (1) unanticipated and anticipated disturbances, and (2) permanent and transitory disturbances, are emphasized. The extent to which stabilization is achieved is shown to depend upon the nature of the disturbances and the available information. The policy redundancy issue is emphasized, implying that optimal rules can frequently be specified in many equivalent ways. *J. Money, Credit, Banking*, May 1987, 19(2), pp. 157-80. University of Illinois.

Wolff, Christian C. P.—Forward Foreign Exchange Rates, Expected Spot Rates, and Premia: A Signal-Extraction Approach

The author implements a methodology to identify and measure premia in the pricing of forward foreign exchange that involves application of signal-extraction techniques from the engineering literature. Diagnostic tests indicate that these methods are successful in capturing the essence of the time-series properties of premia. The estimated premium models indicate that premia show a certain degree of persistence over time and that more than one-half of the variance in the forecast error that results from the use of current forward rates as predictors of future spot rates, is accounted for by variation in premium terms. *J. Finance*, June 1987, 42(2), pp. 395-406. London Business School.

440 INTERNATIONAL INVESTMENT AND FOREIGN AID

441 International Investment and Long-term Capital Movements

Hiemenz, Ulrich—Foreign Direct Investment and Industrialization in ASEAN Countries

This paper provides an evaluation of foreign direct investment in ASEAN's "Other Four" in the 1970s and early 1980s. Sectoral composition of foreign direct investment and marketing strategies applied by transnational corporations from Germany, Japan, and the United States have differed substantially in the region, but

the impact of foreign direct investment on industrialization and export expansion appears to have converged over time. Furthermore, there are indications that the transfer of technology has made a more important contribution to the emergence of internationally competitive industries in ASEAN countries than the direct participation of foreign affiliates in manufactured exports. *Weltwirtschaft. Arch.*, 1987, 123(1), pp. 121-39. Institut für Weltwirtschaft, Kiel.

Yannopoulos, George N.—European Community Tariff Preferences and Foreign Direct Investment

This paper explores the links between preferential trading arrangements and foreign direct investment by focusing on the European Community's nonreciprocal preferences to developing countries. The analysis specifies the conditions under which the export opportunities generated by tariff preferences stimulate foreign direct investment and derives certain testable hypotheses regarding the structure and the geographical distribution of this investment directly from the theories of economic integration and the multinational enterprise. The paper also looks at the pattern of foreign direct investment in the countries benefiting from European Community tariff preferences, and examines how far it provides support for the hypotheses advanced. *Banca Naz. Lavoro Quart. Rev.*, Mar. 1987, 40(160), pp. 93-109. University of Reading, United Kingdom.

442 International Business

Chen, Tain-Jy and Tang, De-Piao—Offshore Assembly and Short-run Labor-Labor Substitution

This paper investigates the short-run production relationship in offshore assembly, using the case of Taiwan's electronics industry. Skilled and unskilled production workers are found to be substitutes for one another and both are complementary to white-collar workers. Material is a substitute for all types of labor. The implications of the wage policies of less-developed countries and the tariff provision for offshore assembly utilized by industrial countries are discussed. The important role and indispensability of white-collar workers to develop-

ment are considered. *Weltwirtschaft. Arch.*, 1987, 123(1), pp. 140-48. Drexel University; University of Missouri at Columbia.

Das, Sanghamitra—Externalities, and Technology Transfer through Multinational Corporations: A Theoretical Analysis

This paper examines the optimal behavior of a multinational firm's subsidiary in a host country when learning of its production techniques by its native rivals occurs. In a dynamic framework, it is shown, among other things, that (1) it is worthwhile for the subsidiary to import better technology from its parent firm and that (2) such technology transfer may not benefit the firms of the host country despite their learning, while the host country as a whole does benefit. *J. Int. Econ.*, Feb. 1987, 22(1/2), pp. 171-82. University of Wisconsin.

Hill, H. and Lindsey, C. W.—Multinationals from Large and Small Countries: A Philippine Case Study

This paper examines differences between foreign investors from "large" and "small" countries, on the basis of two separate but related surveys of firms in Philippine manufacturing. In many areas the behavior of the two groups did not differ greatly. But there is some evidence to suggest that the small country investors: relied less on proprietary technology and brand names; were more export oriented; had a preference for joint ventures; and conferred greater autonomy on local subsidiaries. *Banca Naz. Lavoro Quart. Rev.*, Mar. 1987, 40(160), pp. 77-92. Australian National University; Trinity College.

Streeten, Paul—"New" Directions for Private Resource Transfers

This article explores forms of international resource transfers that lie between 100 percent foreign-owned, direct-equity investment and arm's length transactions between independent agents. The essence of these arrangements is that components of the direct-investment package are unbundled and sold separately, but the multinational firm continues to maintain an interest and a degree of control. The best way of transferring some aspects of technology is

examined. An analytical framework is put forward for analyzing various forms of unbundling. On some conditions, both host country and multinational firm benefit; on others, both lose; on a third set of conditions the host country benefits at the expense of the firm; and on a fourth vice versa. *Banca Naz. Lavoro Quart. Rev.*, Mar. 1987, 40(160), pp. 61-76. World Development Institute, Boston University.

443 International Lending and Aid (public)

Amelung, Torsten and Mehlretter, Thorsten—Early-warning Systems in Light of the International Debt Crisis

An assessment of various types of early-warning systems with respect to their predictive power during the recent debt crisis reveals a rather poor performance of all models tested, irrespective of the degree of statistical sophistication. In addition to reviewing the models to be found in the literature, two systems are applied for the period of 1978 to 1983 based on the data for twelve developing countries. Interestingly, the relatively simple model actually outperforms the statistically more sophisticated one. Early-warning systems should rely more on economic theory than on empirical experience and become more country specific. *Konjunkturpolitik*, 1986, 32(5), pp. 257-81. Kiel Institute of World Economics, Germany; Giesen University.

Levy, Victor—Anticipated Development Assistance, Temporary Relief Aid, and Consumption Behaviour of Low-Income Countries

Much debate about the effectiveness of foreign aid to developing countries focuses on the assumption that aid flows mainly enhance current consumption rather than being channeled into investment. This paper seeks to establish what proportion of foreign assistance is used to finance current consumption. The principal hypothesis to be tested is that aid transfers include very heterogeneous components with different marginal propensities to raise consumption. Estimating the average marginal propensity to consume of all the components of aid, as is commonly done, may lead to erroneous results. *Econ. J.*, June 1987 97(386), pp. 446-58. Hebrew University of Jerusalem.

500 Administration; Business Finance; Marketing; Accounting

510 ADMINISTRATION

511 Organization and Decision Theory

Ribhegge, Hermann—Genossenschaftsgesinnung in entscheidungslogischer Perspektive (The "Cooperative Spirit" Viewed in Terms of Economic Decision Theory)

It is shown that certain attitudes within cooperative organizations, often characterized as a "cooperative spirit" that would characterize the "homo cooperativus," fit well into the familiar model of the "homo oeconomicus." To show this, the preferences, constraints and decision rules of a cooperative's member are analyzed. It is demonstrated that "cooperative behavior" is rational when cooperatives are long-living organizations. Reciprocal behavior that is based on anticipation that services rendered in advance will be remunerated later may create a sense of solidarity within the cooperative that discriminates free rider behavior and will stabilize the cooperative organization. *Kyklos*, 1986, 39(4), pp. 574-95 (German). Institut für Genossenschaftswesen, Westfälische Wilhelms-Universität, Münster, Germany.

512 Managerial Economics

Haller, Hans—Market Power, Objectives of the Firm, and Objectives of Shareholders

Competition plays a crucial role in the normative theory of firms' objectives. In a formal example with a monopolist, it is shown that shareholders disagree on the firm's objectives despite a complete system of markets. Price normalization determines the net market-value maximizing production plan. *J. Inst. Theoretical Econ.*, Dec. 1986, 142(4), pp. 716-26. Virginia Polytechnic Institute and State University.

520 BUSINESS FINANCE AND INVESTMENT

Klammer, Thomas P. and Walker, Michael C.—Capital Budgeting Questionnaires: A New Perspective

The commonly-held belief that large business entities increasingly are adopting sophisticated capital-budgeting techniques is based primarily on the results of numerous questionnaire surveys. There has been debate over the validity of using unrelated questionnaire data to reach

conclusions about trends in capital-budgeting practices. This paper presents new evidence that suggests that the conclusions about trends in capital-budgeting practices drawn from a variety of questionnaire surveys are reasonably valid. It also lends support to the practice of using multiple time-series surveys to indicate trends in general. *Quart. J. Bus. Econ.*, Summer 1987, 26(3), pp. 87-95. North Texas State University; University of Cincinnati.

531 Business Finance

Ambarish, Ramasastry; John, Kose and Williams, Joseph—Efficient Signalling with Dividends and Investments

An efficient signaling equilibrium with dividends and investment, or equivalently, dividends and either sales or repurchases of stock, is constructed and its properties are identified. Because corporate insiders can exploit two signals, the efficient mix minimizes dissipative costs. In equilibrium, many firms both distribute dividends and deviate from first-best investment. Also, the impact of dividends on stock prices is positive. By contrast, the announcement effect of new stock is negative for firms with private information primarily about assets in place and positive for firms with inside information mainly about opportunities to invest. *J. Finance*, June 1987, 42(2), pp. 321-44. University of Wisconsin; University of Chicago; New York University.

Baskin, Jonathan B.—Corporate Liquidity in Games of Monopoly Power

Cross-sectional variation in corporate liquidity within a sample of large U.S. corporations suggests that there are material effects from product market competition. The empirical evidence is consistent with an oligopolistic model wherein liquid assets are employed both to signal commitment to retaliate against market encroachment and to enable firms to rapidly preempt new opportunities. As predicted, firms with high valuation and spending on intangibles, in certain strategic positions, hold large stocks of liquid assets. *Rev. Econ. Statist.*, May 1987, 69(2), pp. 312-19. Baruch College, City University of New York.

Cheng, Joseph K.—Depreciation, Debt, and Equilibrium Tax Rates: A Reconsideration

How debt financing affects the effective corporate tax rate during a period of inflation will depend on the relative taxation of corporate income, equity income, and interest income. It has been shown previously that, given Merton Miller's (1977) position of debt neutrality in valuation and the related tax-rate equilibrium, debt financing accelerates the effective tax rate. This article observes that current theory and evidence tend to suggest rather a positive value of leverage and, thus, an alternative tax-rate equilibrium. It then shows that, because of this alternative tax-rate relationship, debt financing will likely be beneficial. *Quart. Rev. Econ. Bus.*, Spring 1987, 27(1), pp. 6-15. Simon Frazer University.

Jahera, John S., Jr.; Lloyd, William P. and Page, Daniel E.—Firm Diversification and Financial Performance

Diversification by shareholders has long been recognized as a rational response by risk-averse investors to the hazards of common stock ownership. The merits of diversification by corporations are much less obvious in light of the ease of shareholder diversification. This study examines the relationship between corporate diversification and financial performance while controlling for size. Such control is necessary owing to the well-documented small firm effect. The empirical results indicate a relationship between performance and corporate diversification when size is held constant. *Quart. Rev. Econ. Bus.*, Spring 1987, 27(1), pp. 51-62. Auburn University.

532 Business Investment

Majd, Saman and Pindyck, Robert S.—Time to Build, Option Value, and Investment Decisions

Investment decisions and outlays are often made sequentially. For example, the rate at which construction proceeds is usually flexible and can be adjusted with the arrival of new information. Traditional discounted cash-flow methods which treat the pattern of investment as fixed ignore this flexibility and understate the value of the project. This paper uses contingent claims analysis to derive optimal decision rules and to value such investments. The authors determine the effects of time to build,

opportunity cost, and uncertainty on the investment decision. For reasonable parameter values, they show how a simple NPV rule can lead to gross errors. *J. Finan. Econ.*, Mar. 1987, 18(1), pp. 7-27. University of Pennsylvania; Massachusetts Institute of Technology.

530 MARKETING

531 Marketing and Advertising

Nguyen, Dung—Advertising Random Sales Response, and Brand Competition: Some Theoretical and Econometric Implications

This paper examines implications for the firm's advertising decisions under conditions of random sales response to advertising within the context of multibrand competition. The competitive environment assumed is characterized not only by interactions among different companies within a given industry, but also by interactions among different brands produced by a single company. A theoretical model is first formulated to examine the effect of uncertainty in the sales-advertising relations and that of the firm's attitude toward risk on its advertising. The theoretical results are then assessed by estimating an econometric model using the cigarette data. *J. Bus.*, Apr. 1987, 60(2), pp. 259-79. University of Pittsburgh.

600 Industrial Organization; Technological Change; Industry Studies

610 INDUSTRIAL ORGANIZATION AND PUBLIC POLICY

611 Market Structure: Industrial Organization and Corporate Strategy

Ashenfelter, Orley and Sullivan, Daniel—Nonparametric Tests of Market Structure: An Application to the Cigarette Industry

The revealed preference approach is used to construct a nonparametric test of the monopoly model and some simple generalizations of it, and the test is applied to data for the cigarette industry. It exploits the maintained hypothesis that variations in the excise tax charged on a package of cigarettes allow us to assess seller reactions to common exogenous variations in marginal cost. Results indicate that the monopoly hypothesis, and other simple models that do not embody at least a moderate amount of

competition, serve as poor predictors of the effects of excise-tax changes on cigarette prices, sales, and revenues. *J. Ind. Econ.*, June 1987, 35(4), pp. 483-98. Princeton University; Northwestern University.

Bresnahan, Timothy F. and Schmalensee, Richard—The Empirical Renaissance in Industrial Economics: An Overview

This brief essay introduces a special issue of the *Journal of Industrial Economics* devoted to the recent burst of empirical work in industrial organization. Trends in empirical research in this field are discussed, emphasizing the ways in which recent work builds upon and departs from earlier traditions. The papers in this special issue, which exemplify these developments, are briefly discussed. *J. Ind. Econ.*, June 1987, 35(4), pp. 371-78. Stanford University; Massachusetts Institute of Technology.

Cubbin, John and Ceroski, Paul—The Convergence of Profits in the Long Run: Inter-firm and Inter-industry Comparisons

This paper considers the extent to which the short-run dynamic behavior and long-run equilibrium levels of profitability differ among firms within the same industry. Movements in profits are modeled in terms of firm specific deviations from average industry profits, and industry specific deviations from economy-wide average returns. Applied to a sample of 217 large U.K. firms, 1951-77, the results suggest that considerable heterogeneities exist within most industries. That is, most firms' profitability experience differs considerably from those of their closest rivals. *J. Ind. Econ.*, June 1987, 35(4), pp. 427-42. Queen Mary College, London; University of Southampton.

Domowitz, Ian; Hubbard, R. Glenn and Petersen, Bruce C.—Oligopoly Supergames: Some Empirical Evidence on Prices and Margins

This paper is a panel data study on the behavior of prices and margins of oligopolies involved in repeated games. The authors examine two supergame models which generate very different predictions about the cyclical behavior of prices and margins. Evidence on the levels of price-cost margins indicates that oligopolies

achieve equilibria that more closely resemble a one-shot Cournot-Nash outcome than monopoly. The authors find, however, that industries with "high" price-cost margins exhibit cyclical price behavior which is quite different from that of unconcentrated industries. Little evidence of price wars during either recessions or booms is found. *J. Ind. Econ.*, June 1987, 35(4), pp. 379-98. Northwestern University.

Dow, Gregory K.—The Function of Authority in Transaction Cost Economics

This paper questions the transaction-cost characterization of observed authority relations as efficient governance structures. Various inadequacies in the transaction-cost account of work organization and the limits of firm size are traced to its neglect of the possibility that authority may be abused opportunistically. This exemplifies a more general propensity in the transaction-cost literature: that of explaining economic organization in functionalist terms, with little attention to the causal mechanisms through which efficient governance structures might actually arise. Three such mechanisms are considered, but none is found to provide an adequate rationale for the imputation of efficiency to observed structures. *J. Econ. Behav. Organ.*, Mar. 1987, 8(1), pp. 13-38. University of Alberta.

Evans, David S.—The Relationship between Firm Growth, Size, and Age: Estimates for 100 Manufacturing Industries

This study uses a sample of all firms operating in 100 manufacturing industries to examine some aspects of firm dynamics. It finds that firm growth, the variability of firm growth, and the probability that a firm will fail decrease with firm age. It also finds that firm growth decreases at a diminishing rate with firm size even after controlling for the exit of slow-growing firms from the sample. Gibrat's Law therefore fails, although the severity of the failure decreases with firm size. *J. Ind. Econ.*, June 1987, 35(4), pp. 567-81. Fordham University.

Hoch, Robert—The Maxi and the Mini (Reflections on the Hungarian Debate on Large Firms)

In economic policy, changes in fashion may entail severe consequences. In the 1950s and

1960s the political leadership's preference for large firms led to an overcentralization of the state sector. More recently, the advantages of small enterprises seem to be overemphasized. One of the worst shortcomings of the Hungarian regulatory system is its bias against large enterprises. First of all, they are handicapped in respect of wage payment possibilities. As a result of further steps aimed at modernizing the system of economic control, this kind of discrimination has to be ended. *Acta Oecon.*, 1985, 35(3-4), pp. 251-67. Institute of Economics, Hungarian Academy of Sciences, Budapest.

Kantarelis, D. and Veendorp, E. C. H.—Buyer Concentration and Countervailing Power

An alternative measure of buyer concentration in manufacturing industries is proposed and used to explore the relationship between buyer and seller concentration for different subsets of manufacturing industries using data for 1977. The results suggest that the relationship between buyer and seller concentration is a nonlinear one and offer no support for the countervailing power hypothesis. *Quart. J. Bus. Econ.*, Summer 1987, 26(3), pp. 42-56. Assumption College; Clark University.

Lieberman, Marvin B.—Excess Capacity as a Barrier to Entry: An Empirical Appraisal

This paper examines excess-capacity barriers to entry and investment dynamics in a sample of thirty-eight chemical product industries. Logit and log-linear models of investment behavior are estimated, and specific case examples are considered. The results show that incumbents rarely built excess capacity preemptively in an effort to deter entry. In general, entrants and incumbents exhibited similar investment behavior. *J. Ind. Econ.*, June 1987, 35(4), pp. 607-27. Stanford University.

Paba, Sergio—'Brand-naming' as an Entry Strategy in the European White Goods Industry

This paper focuses on a particular type of export sale of manufactured goods: the supply of final products to a foreign firm which produces the same or similar goods and which mar-

kets this prearranged supply under its own brand labels. Such "brand-naming" agreements cannot be described either as a typical subcontracting agreement or as a simple cooperative arrangement between independent firms. The aim of this study is to show how the use of this practice, as an entry strategy into markets protected by high product differentiation barriers due to brand asymmetries, helped the Italian white goods industry to rise to world prominence. *Cambridge J. Econ.*, Dec. 1986, 10(4), pp. 305-18. University of Modena, Italy.

Révész, Gábor—On the Expansion and Functioning of the Direct Market Sector of the Hungarian Economy

The private small-scale activities, and partly the small and medium ventures operating in the framework of large socialist organizations, are characterized by their self-restraint and by the half-heartedness of the authorities toward them. This braked character and lack of trust in the future are causes of a particular monopolistic position and, frequently, of adventurism. These consequences can only be overcome by integrating this sector into the whole of the economy. *Acta Oecon.*, 1986, 36(1-2), pp. 105-21. Institute of Economics, Hungarian Academy of Sciences, Budapest.

Schmalensee, Richard—Collusion Versus Differential Efficiency: Testing Alternative Hypotheses

The predictions of collusion- and efficiency-based static equilibrium explanations of interindustry profitability differences are formally developed and tested, using appropriate econometric techniques, with intraindustry data on seventy U.S. Internal Revenue Service minor manufacturing industries in 1963 and 1972. None of the explanations has much explanatory power. The 1963 data are consistent with collusion-based models, while the 1972 data are inconsistent with all non-null hypotheses considered. Patterns of profitability are sharply different in the two years, in complex ways apparently unrelated to cyclical forces or the Phase II price controls. Implications of these results are discussed. *J. Ind. Econ.*, June 1987, 35(4), pp. 399-425. Massachusetts Institute of Technology.

Slade, Margaret E.—Interfirm Rivalry in a Repeated Game: An Empirical Test of Tacit Collusion

Rivalry in the Vancouver retail gasoline market is modeled as a repeated game. Service-station demand, cost, and intertemporal reaction functions are estimated from daily data on individual station prices, costs, and sales. These functions are then used to calculate noncooperative and cooperative solutions to the constituent game and the actual outcome of the repeated game. The actual outcome is found to be substantially less lucrative than the monopoly solution. Nevertheless, all stations are better off than if they played their noncooperative strategies in every period. *J. Ind. Econ.*, June 1987, 35(4), pp. 499-516. University of British Columbia.

Storey, D. J. and Jones, A. M.—New Firm Formation—A Labour Market Approach to Industrial Entry

This paper argues that a major local factor influencing the rate of new-firm formation is the rate at which jobs are shed in that locality. The evidence presented shows that in Northern England there appears to be no association between changes in, or absolute national levels of, profitability in the *i*th industry and new firm formation rates in that industry. On the other hand, formation rates in the *i*th industry in the region are positively correlated with job shedding. *Scot. J. Polit. Econ.*, Feb. 1987, 34(1), pp. 37-51. University of Newcastle-upon-Tyne.

612 Public Policy toward Monopoly and Competition

Smith, W. James; Vaughan, Michael B. and Formby, John P.—Cartels and Antitrust: The Role of Fines in Deterring Violations at the Margin

This paper investigates the role of fines and damages in deterring illegal price fixing at the margin. Proportional fines, of which treble damages are an example, are rejected as ineffective. Fines based entirely upon monopolistic overcharge or monopoly profit are also rejected because they at times promote, rather than reduce, restriction of trade. A fine's effect depends upon a subtle interaction between fine progressivity, the Department of Justice's case-

bringing strategy and the structure of marginal cost. The authors suggest that fine progressivity be determined on the basis of welfare loss with damages levied on monopoly profit as an efficient alternative to the present system. *Southern Econ. J.*, Apr. 1987, 53(4), pp. 985-96. Weber State College; Weber State College; University of Alabama.

613 Regulation of Public Utilities

Bernard, Jean-Thomas and Cairns, Robert D.—On Public Utility Pricing and Forgone Economic Benefits

G. Jenkins (1985) argues that the special relationships between the provincial governments and their publicly-owned electric utilities have led to overuse of capital in the electric power industry and hence to significant economic waste. His analysis ignores the particular circumstances of electricity price setting in the Canadian institutional context. Furthermore, he borrows two key technological parameters from a U.S. study: scale economies and factor substitution. He neglects the important role played in Canada by hydro resources. Other estimates exist suggesting that Jenkins's evaluation most probably errs on the high side. *Can. J. Econ.*, Feb. 1987, 20(1), pp. 152-63. Université Laval, Montreal; McGill University, Montreal.

614 Public Enterprises

Hensher, David A.—Privatisation: An Interpretative Essay

This paper discusses some of the objectives of privatization and issues that are central to the debate on the wisdom of privatization. These issues include: the relationship between asset ownership and the competitive environment; the spreading ownership of productive assets; the role of regulation ("protective" privatization); and alternatives to asset sale such as competitive bidding to contract out a service. *Australian Econ. Pap.*, Dec. 1986, 25(47), pp. 147-74. Macquarie University, Australia.

Levy, Brian—A Theory of Public Enterprise Behavior

Unresolved conflict among competing goals induces factions external to public enterprises

to intervene in enterprise management, thereby reducing the level of effort expended by managers. Yet intervention can be a rational mechanism for inhibiting managers from capturing the enterprises for their own ends. A formal model explores the equilibrium that results from the interactions between the maximizing decisions of managers and of controllers. The model is extended to analyze strategic buffering by managers and to identify alternative dynamic sequences that might characterize manager-controller interactions. It provides a basis for discussing policy options for controlling public enterprises. *J. Econ. Behav. Organ.*, Mar. 1987, 8(1), pp. 75-96. Williams College.

616 Industrial Policy

Succar, Patricia—The Need for Industrial Policy in LDC's—A Re-statement of the Infant Industry Argument

This paper presents a learning-by-doing model of a small open economy. Learning acquired in production of an industry x enhances productivity of industries x and y . By introducing dynamic production complementarities across industries through the learning curve, this approach presents an important generalization of P.K. Bardhan's 1971 model. *Int. Econ. Rev.*, June 1987, 28(2), pp. 521-34. University of Maryland.

619 Economics of Regulation

Holcombe, Randall G. and Holcombe, Lora P.—The Market for Regulation

Consumers demand regulation of product quality when some important aspects of quality are difficult to observe, as is, for example, the case with restaurant sanitation or medical services. Advertising cannot convey adequate information in these cases because firms have an incentive to always represent themselves as meeting standards that are difficult to observe. Although regulation is demanded, private regulatory firms will arise in markets where there is adequate demand for regulation and where government regulation does not exist. Best Western Motels is used as an example of a private regulatory agency. *J. Inst. Theoretical Econ.*, Dec. 1986, 142(4), pp. 684-96. Auburn University.

620 ECONOMICS OF TECHNOLOGICAL CHANGE

621 Technological Change; Innovation; Research and Development

Bond, Eric W. and Samuelson, Larry—Durable Goods, Market Structure and the Incentives to Innovate

A commonly-cited finding in the innovation literature is that a monopoly tends to innovate too little. This paper demonstrates that a monopoly may devote more resources to innovation than is socially optimal if it produces a durable good. This possibility occurs because durability creates new innovation incentives. Once an initial stock of a durable good has been produced, the monopoly faces a residual demand for the good. Innovation may allow the monopoly to more profitably exploit this residual demand, and this ability may lead the monopoly to devote more resources to innovation than is socially optimal. *Economica*, Feb. 1987, 54(213), pp. 57–67. Pennsylvania State University.

Cohen, Wesley M.; Levin, Richard C. and Mowery, David C.—Firm Size and R&D Intensity: A Re-examination

Using data from the Federal Trade Commission's Line of Business Program and survey measures of technological opportunity and appropriability conditions, this paper finds that overall firm size has a very small, statistically-insignificant effect on business unit R&D intensity when either fixed industry effects or measured industry characteristics are taken into account. Business unit size has no effect on the R&D intensity of business units that perform R&D, but it affects the probability of conducting R&D. Business unit and firm size jointly explain less than 1 percent of the variance in R&D intensity; industry effects explain nearly half the variance. *J. Ind. Econ.*, June 1987, 35(4), pp. 543–65. Carnegie-Mellon University; Yale University; Carnegie-Mellon University.

Gottinger, Hans W.—Economic Choice and Technology Diffusion in New Product Markets

This essay models and estimates diffusion paths for a limited set of high-technology markets. The basic presupposition is that there is

an intrinsic relation between diffusion patterns and market dynamics. It is assumed that a firm is faced with the discrete choice of entry or non-entry (exit or non-exit) and that the choice probabilities depend on economic parameters determining the period for the speed of diffusion. The model which identifies strategic factors for a small spectrum of diffused product/process technologies also serves as a forecasting model for emerging targeted technologies in related industries. *Weltwirtschaft. Arch.*, 1987, 123(1), 93–120. University of Virginia.

Grossman, Gene M. and Shapiro, Carl—Dynamic R&D Competition

The authors study a simple, two-stage, stochastic patent race involving two firms. They examine the behavior of the participants as they gain the lead or fall behind in the race. The authors find that the leader engages in R&D more intensively than does the follower, and that both firms intensify their efforts if the follower does catch up with the leader. They also analyze: (1) the attractiveness of licensing, whereby the leader shares his results with the follower; (2) a policy of issuing patents for intermediate research results; and (3) the effects of research joint ventures, whereby the firms coordinate their initial research efforts and share their results. *Econ. J.*, June 1987, 97(386), pp. 372–87. Woodrow Wilson School, Princeton University.

Mark, Jerome A.—Technological Change and Employment: Some Results from BLS Research

The Bureau of Labor Statistics has been studying technological change and its impact on the work force for a long time. Assessing the impact of technology is very complex. Technological changes interact with, and are affected by, changes in output, consumption patterns, international competition, and other factors, and the relationship between changing technology and employment is by no means clear. Although the Bureau's studies do not provide comprehensive answers about any relationship, they do yield useful insights. This article reports on some of the findings of these studies. It tentatively concludes that changing technology is not incompatible with employment growth.

Mon. Lab. Rev., Apr. 1987, 110(4), pp. 26-29. Bureau of Labor Statistics, Washington, D.C.

McHugh, Richard and Lane, Julia—The Role of Embodied Technological Change in the Decline of Labor Productivity

This article accounts for the role of changes in the rate of embodied technological advancement in the productivity slowdown of the 1970s and finds that embodied technological changes appear to have accelerated over that time period. On the other hand, disembodied technological change slowed considerably. These results are obtained from a direct estimation of a vintage production function in which the coefficient on the age of capital captures embodiment effects. Unlike earlier studies, the age is measured with an adjustment for the probable idling of older capital during periods of less than full utilization. *Southern Econ. J.* Apr. 1987, 53(4), pp. 915-24. University of Missouri; University of Louisville.

Zimmerman, Klaus F.—Trade and Dynamic Efficiency

This paper studies possible impacts of international trade on domestic innovative activity. In the light of Schumpeterian ideas of dynamic efficiency, observed evidence of a positive relationship between static efficiency and trade may be undesirable. The paper examines the question by means of an econometric analysis of a huge data set of individual firms. The findings are: exporting reduces the effect of firm size on process innovations; and import competition, a larger integration in the foreign markets, and external demand support innovative activity. *Kyklos*, 1987, 40(1), pp. 73-87. University of Mannheim and University of Pennsylvania.

630 INDUSTRY STUDIES

631 Industry Studies: Manufacturing

Ahmed, Ziaul Z. and Sieling, Mark—Two Decades of Productivity Growth in Poultry Dressing and Processing

Output per employee hour in the poultry dressing and processing industry rose at an average annual rate of 2.9 percent between 1963 and 1984. In the early 1970s, automated machines were widely installed and helped hold down employee hours as output increased. By the late 1970s, most of the gains stemming from

this automation had been realized and output gains were often matched or exceeded by increases in employee hours. Between 1980 and 1984, productivity again rose at a rapid pace, reflecting growing consumer demand, higher valued products, new processing techniques, and streamlined Federal inspection procedures. *Mon. Lab. Rev.*, Apr. 1987, 110(4), pp. 34-39. Bureau of Labor Statistics, Washington, D.C.

Berthelemy, Jean-Claude; Devezeaux de Lavergne, Jean-Guy and Ladoux, Norbert—Une analyse de la dynamique des comportements de substitution de facteurs dans cinq branches de l'économie française (An Analysis of the Dynamics of Inputs Substitution in Five Sectors of French Economy)

In this study, the authors introduce adjustment terms in the classic translog formulation. They thus obtain a dynamic form of the usual value shares of inputs. Unlike other studies of this type, they consider that quantities, but not values, are rigid. The retained functional form was estimated in five industrial sectors of the French economy. The results obtained allow an analysis of the evolution over a period of time (1959-1982), as well as a comparison between the different sectors, of the elasticities of substitution in the long and short run. *Ann. Econ. Statist.*, Oct./Dec. 1986, (4), pp. 3-22 (French). Laboratoire d'Économie Politique; Commissariat à l'Énergie Atomique and University of Paris-I; Commissariat à l'Énergie Atomique and GREMAQ.

Bresnahan, Timothy F.—Competition and Collusion in the American Automobile Industry: The 1955 Price War

Movements in total quantity and in quality-adjusted price suggest a supply-side shock in the American automobile market in 1955. This paper tests the hypothesis that the shock was a transitory change in industry conduct, a price war. The key ingredients of the test are alternative equilibrium models of oligopoly under product differentiation. In nonnested (Cox) tests of hypotheses, a collusive solution is sustained in 1954 and in 1956, while a competitive solution holds in 1955. The result does not appear to be an artifact, since it is robust in tests against

alternative specifications. *J. Ind. Econ.*, June 1987, 35(4), pp. 457-82. Stanford University.

Hall, Brouwyn H.—The Relationship between Firm Size and Firm Growth in the U.S. Manufacturing Sector

Using panel data on the publicly traded firms in the U.S. manufacturing sector in the recent past, the author finds that most of the change in employment at the firm level in any given year is permanent, that year-to-year growth rates are largely uncorrelated over time or with prior characteristics of the firm, and that there is almost no measurement error. Gibrat's Law is weakly rejected for the smaller firms in the sample and accepted for the larger firms. This finding remains when the author controls for the effect of selection (attrition) on estimates obtained from this sample. *J. Ind. Econ.*, June 1987, 35(4), pp. 583-606. Stanford University.

O'Neil, Barbara A.—The Mining Machinery Industry: Labor Productivity Trends, 1972-84

Productivity in the mining-machinery industry, as measured by output per hour of all persons, declined at an average annual rate of 1.2 percent from 1972 to 1984. Producing heavy machinery and equipment for the mining of ores and coal, the industry has felt the effects of falling coal prices, fuel shortages, and energy crises over the past 10 to 15 years. The general decline of U.S. mining has led mining companies to retrofit and rebuild existing machinery rather than purchase new equipment. Future productivity improvements will depend on increased demand and wider diffusion of computer-assisted design and manufacturing systems. *Mon. Lab. Rev.*, June 1987, 110(6), pp. 31-36. Bureau of Labor Statistics, Washington, D.C.

Struckmeyer, Charles S.—The Putty-Clay Perspective on the Capital-Energy Complementarity Debate

This paper argues that capital-energy complementarity is a short-run phenomenon reflecting the fixed *ex post* nature of factor employment in a putty-clay technology. When an empirical specification is employed that measures firms' *ex ante* choice of technique, capital and energy are found to be long-run substitutes.

However, further analysis of the standard translog and putty-clay models with nonnested hypothesis tests reveals that neither specification is an adequate representation of technology. The results suggest that there is a dynamic adjustment process in the data that is not fully captured in either model. *Rev. Econ. Statist.*, May 1987, 69(2), pp. 320-26. Board of Governors of the Federal Reserve System, Washington, D.C.

632 Industry Studies: Extractive Industries

Hendricks, Kenneth; Porter, Robert H. and Boudreau, Bryan—Information, Returns, and Bidding Behavior in OCS Auctions: 1954-1969

This paper examines federal auctions for leases on the Outer Continental Shelf in the light of the predictions of the first-price, sealed-bid, common-values model of auctions. The authors find that the data strongly support the model for auctions in which one bidder is better informed than the other bidders. The evidence for auctions in which bidders have noisy, but qualitatively similar, information is less conclusive but is consistent with a model in which each bidder does not know either the actual or potential number of bidders on a lease. *J. Ind. Econ.*, June 1987, 35(4), pp. 517-42. State University of New York at Stony Brook.

633 Industry Studies: Distributive Trades

Herman, Arthur S. and Henneberger, J. Edwin—Productivity Trends in the Furniture and Home Furnishings Stores Industry

Productivity, as measured by output per hour of all persons, grew at an average rate of 3.0 percent in the furniture and home furnishings stores industry from 1967 to 1985. Productivity grew at the high rate of 4.6 percent in the appliance, radio, and television stores component, while increasing at less than half that rate, 1.9 percent, in the furnishings component. The industry shifted toward more chain store operations and introduced such innovations as computerized point of sale equipment and companywide computer systems for inventory control, product reordering, and advertising campaigns which aided productivity growth. *Mon. Lab. Rev.*, May 1987, 110(5), pp. 24-29. Bureau of Labor Statistics, Washington, D.C.

634 Industry Studies: Construction

Schulze, William D., et al.—Benefits and Costs of Earthquake Resistant Buildings

There is concern about whether the cost of earthquake resistant buildings justify their benefits. The authors examine this by deriving a community's willingness-to-pay for resistant buildings. Geological evidence on the San Andreas Fault is utilized to obtain a probability density function for an earthquake. The probability of an earthquake is shown to increase over time which has an offsetting effect on discounting future benefits. At the present, for a wide range of discount rates, the expected benefits of earthquake resistant buildings exceed their costs in Los Angeles County. However, this result varies with the elapsed time since the last earthquake. Coauthors are David S. Brookshire, Ronda K. Hageman, and John Tschirhart. *Southern Econ. J.*, Apr. 1987, 53(4), pp. 934-51. University of Colorado.

635 Industry Studies: Services and Related Industries

Claggett, E. Tylor, Jr.—Cooperative Distributors of Electrical Power: Operations and Scale Economies

Cooperative distributors of electricity serve more than twenty-five million customers, yet relatively few researchers have scrutinized cooperative firms or isolated electrical power distributions. This study attempts to examine both topics simultaneously. The objectives of the study are to: (1) describe cooperative electrical distributors and the operations; (2) determine scale economies within their enterprise; and (3) quantify their past cost disadvantages. An unconventional output definition for power distribution firms is developed and used in conjunction with a CES production function. The investigation reveals increasing returns to scale and the implied cost disadvantages for the selected sample of cooperative distributors. *Quart. J. Bus. Econ.*, Summer 1987, 26(3), pp. 3-21. University of Texas—Medical Branch, Galveston.

Gutermann, Karl L. and Smith, Richard L.—Efficiency of the Market for Residential Real Estate

Property value data for fifty-seven metropolitan areas are used to test the efficiency of the residential real estate market. Results based on estimated abnormal returns indicate a potentially exploitable market imperfection but the amount of systematic variation is not sufficient to offset transactions costs. Additionally, trading strategies based on historical rates of appreciation were compared to a buy-the-market strategy. A residential real estate portfolio with low average rates of capital appreciation in one period produced rates of appreciation in the next period that exceeded the average for the market. Again, once transactions costs are considered, evidence suggests that the real estate market is efficient. *Land Econ.*, Feb. 1987, 63(1), pp. 34-45. Arizona State University.

Henriet, Dominique and Rochet, Jean-Charles—Some Reflection on Insurance Pricing

The authors analyze three aspects of the recent evolution of French automobile insurance by use of three simple theoretical models: the fantastic development of professional mutuals; the growing complexity of tariffs; and the increasing recourse to product differentiation. Each of these aspects can be interpreted as a step further in the direction of increasing premiums personalization. The question the authors examine is: how far should we go? *Europ. Econ. Rev.*, June 1987, 31(4), pp. 863-85. Ecole Polytechnique, Paris and CNET, France; Ecole Polytechnique, Paris and University of Paris-IX.

Schroeter, John R.—Competition and Value-of-Service Pricing in the Residential Real Estate Brokerage Market

The services of residential real estate brokers are normally priced at a fixed percentage of the selling price of the house. Since the direct cost of selling a house is virtually unrelated to house value, this custom is an example of value-of-service pricing—a practice often regarded as *prima facie* evidence of collusive price discrimination. This article presents a simple model of the market for real estate brokerage services in which value-of-service pricing emerges as a property of competitive equilibrium. Thus, inferences of noncompetitive broker conduct,

based on the prevalence of percentage-of-house-value pricing, may be incorrect. *Quart. Rev. Econ. Bus.*, Spring 1987, 27(1), pp. 29-40. Iowa State University.

700 Agriculture; Natural Resources

710 AGRICULTURE

711 Agricultural Supply and Demand Analysis

Csáki, Csaba—An Outlook of Food Supply and Demand in the CMEA Countries: Results of the ILASA/FAP Model System

In the framework of the Food and Agriculture Programme of the International Institute for Applied Systems Analysis, a series of computations has been made concerning the prospects of the food market in the CMEA countries. All of the four scenarios investigated reflect substantial growth potentials in the agricultural sector of these economies. The development of crop production, and especially of grain farming, is of outstanding importance, since several CMEA countries are heavy importers of food stuff. The objective of establishing food autarky set in these countries does not, however, serve the interest of the community nor the national interests of the member countries. *Acta Oecon.*, 1985, 35(1-2), pp. 145-64. Karl Marx University of Economics, Budapest.

Evans, Scott F. and Lewis, Philip E. T.—Demand, Supply and Adjustment of Farm Labour in Australia

In this paper a disequilibrium model of the Australian rural labor market is constructed and the demand, supply, and adjustment functions estimated. The results indicate that the market for farm labor can be described by traditional neoclassical analysis and that wages are very slow to adjust to disequilibrium. The results imply that increases in farm prices will not necessarily maintain or raise farm employment. The most important determinants of farm employment are wages relative to other input prices and off-farm wages. *Australian Econ. Pap.*, Dec. 1986, 25(47), pp. 236-46. Bureau of Agricultural Economics, Canberra, Australia.

Grabowski, Richard and Sanchez, Omerino—Returns to Scale in Agriculture: An Empirical Investigation of Japanese Experience

In this paper a ray-homothetic production function is used to determine returns to scale for Japanese agriculture for the period 1878 to 1940. The advantage of the ray-homothetic function is that it allows returns to scale to vary with both output and factor intensity. The results show that for this period Japanese agriculture operated under conditions of increasing returns to scale. *Europ. Rev. Agr. Econ.*, 1986, 13(2), pp. 189-98. Southern Illinois University.

O'Connell, John—A Hedonic Price Model of the Paris Carcase Lamb Market

Based on a lamb carcass classification and pricing exercise in the Paris wholesale market at Rungis, an equation was estimated which regresses prices on farm-based and factory-based quality aspects and on country of origin of the carcasses. The revenue foregone per carcass by each supplying country, because of divergence from the optimal quality, is quantified and allocated to particular quality attributes. For all countries quality improvement would yield substantially increased revenue. Supplying countries other than France suffer a substantial country-of-origin discount which is not justified on quality considerations. Further research is necessary on this phenomenon. *Europ. Rev. Agr. Econ.*, 1986, 13(4), pp. 439-50. University College, Dublin, Ireland.

Palm, F. C. and Vogelvang, E.—A Short-run Econometric Analysis of the International Coffee Market

The authors develop a short-run econometric model for the world coffee market and give empirical evidence on the behavioral equations of the model for the major coffee importing and exporting countries. The behavioral relationships for producers, inventory holders, speculators, and consumers are derived from optimizing considerations in an uncertain environment. Spot and futures prices adjust to clear the spot and futures markets at each period. International trade flows of coffee are determined by the optimizing behavior of the agents (countries) in the model. The empirical evidence confirms the authors' hypothesis of a highly structured model which is consistent with profit maximizing behavior under uncertainty. *Europ. Rev. Agr. Econ.*, 1986, 13(4), pp. 451-

76. State University Limburg, Maastricht, the Netherlands; Free University, Amsterdam.

713 **Agricultural Policy, Domestic and International**

Alston, Julian M.—The Effects of the CAP on International Trade in Poultry Meat

The Common Agricultural Policy (CAP) increases poultry production costs, prohibits poultry imports, and subsidizes poultry exports. An equilibrium displacement model is applied to analyze the effects of these policies. In the absence of the CAP it is likely that the European Community (EC) would be a net importer rather than a major exporter of poultry. The large implicit tax on EC poultry consumers is an inefficient means of transferring income to producers, and the policy has significant net costs. The displacement of U.S. exports, mainly to the Middle East, involves substantial cost to U.S. producers but these are almost entirely offset by gains to U.S. consumers. *Europ. Rev. Agr. Econ.*, 1986, 13(2), pp. 217-31. Department of Agriculture, Victoria, Australia.

Alvarez-Coque, J. M. G. and Barcelo, L. V.—The Welfare Evaluation of the Spanish Price Policy: An Integrated Approach

The use of the economic surplus measures has been widespread in the welfare evaluation of trade distortions in agricultural markets. However, the criterion based on the sum of surplus areas can be ambiguous since it usually involves the implicit acceptance of a restrictive class of value judgments. This article approaches the evaluation of the Spanish agricultural pricing policy by means of A. Atkinson's (1970) welfare function, that makes clear the trade-off between efficiency and equity, and explicitly includes the policy maker's inequality aversion. Optimum levels of protection are estimated at various inequality-aversion levels. *Europ. Rev. Agr. Econ.*, 1987, 14(1), pp. 117-34. Polytechnical University of Valencia, Spain.

Marsh, John S.—Alternative Policies for Agriculture in Europe

Three different approaches to a reform of the agricultural policies are discussed. Tourniquet

solutions to solve the immediate problem of budget control, therapeutic solutions aiming at a stable and prosperous rural community while ensuring the further technological development of agriculture, and a catalytic approach in which agricultural policies are integrated in an overall political effort aimed at the further political and economic integration of the expanded European Community and the tackling of its important social and economic problems. *Europ. Rev. Agr. Econ.*, 1987, 14(1), pp. 11-21. University of Reading, United Kingdom.

Meester, Gerrit—Budgetary Constraints and International Realities in the CAP

The shift from net importer to net exporter marks a radical change in the economic environment within which the CAP operates. The proposed price reductions and co-responsibility levies may contribute to the solution of budgetary problems but have little to offer with respect to the solution of international trade conflicts and the improvement of the Community's terms of trade. Supply control measures, which are rejected by the Commission, will have the combined effect of alleviating the budgetary burden and of reducing the unfavorable trade effects for third-world countries and for the Community itself. *Europ. Rev. Agr. Econ.*, 1987, 14(1), pp. 37-47. Agricultural Economics Research Institute (L.E.I.), the Hague, the Netherlands.

Tarditi, Secondo—The 'Green Paper' in a Long-term Perspective

After a survey of the main financial and economic features of the Common Agricultural Policy and of the long-term development of the diversified structural situation of farming in the Community, the article summarizes the basic policy options presented in the *Green Paper*. In the concluding section, the budgetary consequences of the policy proposals are analyzed, and the need for a more balanced price support for the various products and a further geographical differentiation of the common policies according to economic and environmental conditions are advocated. *Europ. Rev. Agr. Econ.*, 1987, 14(1), pp. 23-35. University of Siena, Italy.

de Veer, Jan—Perspectives for the CAP

To provide background information, the contents of the *Green Paper* and the *Policy Orientations* in which the Commission of the European Communities presents its views on the future development of the Common Agricultural Policies, are summarized and discussed. First, an outline of the Community's institutional framework for agricultural policy making is given and the papers on agricultural policy reforms published by the Commission in previous years are surveyed. The article concludes with a description of the development of the Community's agricultural policy budget. *Europ. Rev. Agr. Econ.*, 1987, 14(1), pp. 1-10. Agricultural Economics Research Institute (L.E.I.), the Hague, the Netherlands.

Weinschenck, Günther—The Economic or the Ecological Way? Basic Alternatives for the EC's Agricultural Policy

The policy proposals presented in the *Green Paper* are not consistent with the stated objectives. They will not prevent a rapid decrease in the number of farms and the abolition of farming in the less-favored regions. After a systematic discussion of the various policy alternatives and their implications, a proposal is developed to reduce output by decreasing the use of yield-increasing inputs and to support farming in the less-favored areas by direct-income aids and retirement payments. The reduction in the use of yield-increasing inputs, particularly nitrogen, can be achieved by imposing a tax. This policy would not only reduce surplus production but would also encourage a less intensive and ecologically more desirable use of the land. *Europ. Rev. Agr. Econ.* 1987, 14(1), pp. 49-60. University of Hohenheim, West Germany.

714 Agricultural Finance**Sakellis, M. G.—An Empirical Analysis of Savings Behaviour of the Greek Agricultural Households**

In this article, the author presents the results of an econometric cross-sectional analysis of determinants of the savings behavior of agricultural households in Greece. The estimates of bivariate and multivariate models indicate that: (1) the marginal propensity to save is higher

than the average propensity to save and is differentiated among classes of income, wealth, age and profession, income uncertainty mostly due to climatic variations, and educational level; (2) the hypothesis that income uncertainty in Greece, as in other countries, raises the marginal propensity to save can be supported; and (3) the disposable income is the most important factor affecting agricultural savings. *Europ. Rev. Agr. Econ.*, 1986, 13(2), pp. 169-88. Agricultural Bank of Greece.

715 Agricultural Markets and Marketing**Boyd, Milton S. and Brorsen, B. Wade—Dynamic Price Relationships for U.S. and EC Corn Gluten Feed and Related Markets**

The dynamic relationship of U.S. and European Community prices of corn-gluten feed and related markets are investigated using time-series models. Results show that prices for Rotterdam corn-gluten feed and soybean meal markets are instantaneously related, and that these commodities behave as strong substitutes but behave as weak substitutes for West German barley. Thus, the results indicate that corn-gluten feed acts more like a protein supplement than a feed grain or energy substitute. Thus, proposed European community import restrictions on corn-gluten feed are more likely to result in increased imports of soybean meal or other protein supplements than increased use of European Community feed grain. *Europ. Rev. Agr. Econ.*, 1986, 13(2), pp. 199-215. Purdue University.

716 Farm Management**Berg, Ernst—A Sequential Decision Model to Determine Optimal Farm-Level Grain Marketing Policies**

This paper deals with the development of models to support postharvest grain-marketing decisions. These multi-stage decision models compute optimal closed-loop sales policies based on subjective assessments of the probability distributions of future prices. The first approach assumes that the decision maker is risk indifferent. Later on the model is expanded in order to maximize expected utility to capture risk aversion as well. The impacts of different degrees of risk aversion on the optimal policy are analyzed and conclusions are drawn with

respect to the model application in practical decision making. *Europ. Rev. Agr. Econ.*, 1987, 14(1), pp. 91-116. University of Bonn, West Germany.

Hanf, C.-H. and Kühl, Rainer—Possibilities and Limits of Individual Marketing on Family Farm Firms

Agricultural marketing is usually regarded as the affair of special institutions created to improve the situation of the whole sector. However, any farm has at its disposal a bundle of marketing activities to improve its economic situation. Generally these activities aim at a reduction of input prices and/or an increase of the farm-gate output prices. The paper deals with these possibilities and gives some first approximations of the profit increases which could be attributed to improvements of individual marketing activities. *Europ. Rev. Agr. Econ.*, 1986, 13(2), pp. 149-67. Agricultural University of Vienna; University of Kiel, W. Germany.

Higgins, James—Input Demand and Output Supply on Irish Farms—A Micro-economic Approach

In this paper a profit-function approach is used to derive a set of input-demand and output-supply equations, the parameters of which are used to estimate a set of own and cross price elasticities of demand and supply. Both compensated and uncompensated elasticity estimates are presented. The methodology used permitted the testing of some of the assumptions of the neoclassical theory of the firm. The data used are from a cross section of farms. While the empirical results did not meet some of the requirements of profit maximization, the methodology proved useful in describing the interrelationships between outputs and inputs. *Europ. Rev. Agr. Econ.*, 1986, 13(4), pp. 477-93. Agricultural Institute, Dublin, Ireland.

Lianos, Theodore P. and Parliarou, Despina—Farm Size Structure in Greek Agriculture

Although the average farm size in Greece has increased since 1960, there has been no decline in the percentage of farms in the smallest-sized group. The continued existence of these small farms can be attributed to part-time farming, and to the farm-family life cycle. In

addition, the lack of alternative investment opportunities retards the change in land ownership structure. The average farm size over regions is found to be negatively related to population pressure, positively related to industrialization, and positively related to mechanization. The EC structural policy, presently combined with restrictive price policy, is expected to stimulate average farm-size growth. *Europ. Rev. Agr. Econ.*, 13(2), pp. 233-48. Athens School of Economics and Business Science, Greece.

717 Land Reform and Land Use

van Dijk, G.; Smit, L. and Veerman, C. P.—Land Prices and Technological Development

Land prices in the Netherlands are strongly influenced by technological change in agriculture. These effects are described by applying the cost-push innovation hypothesis. Land prices are the outcome of a price-formation process. Market behavior and the sampling interval of the data (annual) require the use of a simultaneous-equations approach. The identification of demand and supply in such a model is discussed. The statistical results of simultaneous models for two regions in the Netherlands are presented. The estimated parameters do not lead to proper empirical identification of demand and supply. Recursive models yield better statistical results. *Europ. Rev. Agr. Econ.*, 1986, 13(4), pp. 495-515. Agricultural University, Wageningen, the Netherlands; Agricultural University, Wageningen, the Netherlands; Graduate School of Management, Rotterdam, the Netherlands.

718 Rural Economics

Bauwens, A. L. G. M. and Douw, L.—Rural Development: A Minor Problem in the Netherlands?

In the Netherlands there are no large areas with typical rural characteristics. Existing differences in culture and economic performance between more and less urbanized regions have gradually been reduced by economic development that was stimulated by regional policy. The main problem now is how the non-urban areas can fulfill the growing needs of urban residents and others concerning outdoor recreation, nature conservation, and landscape. The

development of policies and instruments of physical planning and rural reconstruction in recent years is closely linked with the above problems. *Europ. Rev. Agr. Econ.*, 1986, 13(3), pp. 343-66. Agricultural Economics Research Institute (L.E.I.), the Hague, the Netherlands.

de Benedictis, Michele—Italy: Fragmentation of Policies and Research Effort

In Italy, rural development is considered an autonomous area of teaching and research. A major portion of the literature is concerned with the description and interpretation of the regional and intersectoral impact of the postwar development process in Italy, placing substantial emphasis on the analysis of major phenomena and variables involved in this process (diffused versus concentrated industrialization, migration, part-time farming). The absolute lack of coordination among the several measures conceived to promote agricultural and industrial development underlines the absence of an overall policy for rural development. *Europ. Rev. Agr. Econ.*, 1986, 13(3), pp. 327-41. University of Rome.

Brun, André—France: Rural Development in a Dynamic Context

The process and mechanisms by which rural population, space, resources, equipment, production, and relevant social networks are evolving define a large field of investigation referred to by economists as "rural development." This loose definition leads the author to describe and interpret the main features of these changes and characterize the research phases in recent decades. Two orientations of research will be suggested, one on the systematization of simultaneous detailed spatial observations on demography, employment, land markets, agricultural production, and structures, the other dealing with conflicts arising when development projects are implemented or simply proposed. *Europ. Rev. Agr. Econ.*, 1986, 13(3), pp. 309-26. INRA, Orléans, France.

Ceña, Felisa and Fernandez-Cavada, Jose Luis—Spain: Rural Development under Rapid Depopulation

The concept of "development" was introduced in the Spanish economic literature and

in the policy debate during the 1950s. The most relevant literature may be grouped under the headings "Traditional Agriculture in Transition," "Impact of Economic Development in Rural Areas," "Migrations," and "Family Agriculture." Those areas of study form the framework of this review. The most significant factor in Spanish rural development is rapid depopulation of rural areas during the 1960s and 1970s, coinciding with significant nationwide industrialization resulting in general economic development. *Europ. Rev. Agr. Econ.*, 1986, 13(3), pp. 415-32. University of Cordoba; Polytechnical University of Madrid.

Giessübel, Rainer and Spitzer, Hartwig—Fed. Rep. of Germany: Rural Development under Federal Government

The development of rural areas should include the promotion of industry, infrastructure, and services as well as the conservation of the productivity and efficiency of the natural system, which should be assessed as an ecological potential of rural areas. Starting from this definition, the article is an attempt to review the theoretical conceptions, main problems, and planning activities concerned with rural development considering the institutional framework in West Germany. *Europ. Rev. Agr. Econ.*, 1986, 13(3), pp. 283-307. Institut für Landwirtschaftliche Betriebslehre, Regional und Umweltpolitik, Justus-Liebig Universität, Giessen, West Germany.

Hodge, Ian D. and Whitby, Martin—The U.K.: Rural Development, Issues and Analysis

This paper reviews the literature relating to rural development issues in Britain. The issues of depopulation and the decline of employment were dominant concerns in rural development up to the mid-1970s. Since then, the phenomena of counterurbanization and the urban-rural manufacturing shift, and their consequences for rural areas, have become major themes. Early studies relating to land use have been followed by applications to the issues of environmental change, settlement planning, and employment. The final section highlights some elements of the debate over policies for rural development and the institutional framework for their imple-

mentation. *Europ. Rev. Agr. Econ.*, 1986, 13(3), pp. 391-413. University of Cambridge; University of Newcastle-upon-Tyne.

Matthews, Alan—Ireland: Rural Development in an Agrarian Society

Problems of economic and social development dominate the Irish rural development literature. This article distinguishes five separate themes: the pattern of agricultural adjustment and its consequences for land use and demography; the evaluation of alternative means of creating employment in rural areas; the extent and pattern of social deprivation; the investigation of conflicts in the management of rural resources; and the potential of institutional innovation to tap local resources and initiative. The major contributions to each theme are discussed. *Europ. Rev. Agr. Econ.*, 1986, 13(3), pp. 367-89. Trinity College, Dublin.

720 NATURAL RESOURCES

721 Natural Resources

Bell, Frederick W. and Leeworthy, Vernon R.—Economic Demand for Marinas and Projected Impact on Wetlands

The demand for boating has created a derived demand for marinas and also wetlands. A three-equation model of marina demand was formulated consisting of an equation explaining boat registrations, a probability equation to predict marina use, and a wet-dry slip equation to predict the choice of marina services. The model was estimated for the State of Florida and used to forecast the demand for marinas and wetlands to the year 2000. Without institutional constraints, the forecast indicates that 1,897 acres of saltwater wetlands might be lost along the coast of Florida or 0.19 percent of existing wetlands which is a small quantitative impact; however, qualitative impacts were not explored. *Land Econ.*, Feb. 1987, 63(1), pp. 79-91. Florida State University; NOAA, Rockville, Maryland.

Bjørndal, Trond and Conrad, Jon M.—The Dynamics of an Open Access Fishery

A discrete-time, nonlinear, deterministic model for an open-access fishery is developed and the equilibrium is characterized. The open-

access exploitation of North Sea herring during the period 1963-77 is analyzed. Alternative production functions are considered and estimated for the Norwegian purse seine fishery. The bionomic equilibrium and approach dynamics are presented when prices and costs are changing. The results indicate that the resource stock was saved from possible extinction by the closure of the fishery at the end of the 1977 season. *Can. J. Econ.*, Feb. 1987, 20(1), pp. 74-85. Norwegian School of Economics; Cornell University.

Boadway, Robin, et al.—Marginal Effective Tax Rates for Capital in the Canadian Mining Industry

The authors model a firm that explores, develops, and extracts a depletable asset, taking into account various features of Canadian corporate and Ontario and Quebec mining tax law. They derive the user cost of capital and effective tax rate for investments undertaken by a mining firm. Calculations based on 1985 tax law show that there is considerable dispersion in effective tax rates, most being negative, especially for processing assets. The authors conclude that these taxes have been very poor collectors of mining rents compared to a neutral cash flow tax. Coauthors are Neil Bruce, Ken McKenzie, and Jack Mintz. *Can. J. Econ.*, Feb. 1987, 20(1), pp. 1-16. Queen's University, Ontario.

Bockstael, Nancy E. and Strand, Ivar E., Jr.—The Effect of Common Sources of Regression Error on Benefit Estimates

Two potential sources of error in regression analysis are examined to understand their effect on benefit estimates. The alternative interpretations of the error as inaccurate measurement of the dependent variable or omission of relevant variables suggest different methods for calculating consumer surplus estimates from estimated equations. Both methods have been used in the literature, yet they yield different consumer surplus estimates. An expression reflecting this difference is developed for a given sample. Additionally, the expected value of the difference is derived for the case in which the sample has yet to be drawn. The omitted variables interpretation is shown to lead to larger benefit estimates than the measurement error

interpretation. *Land Econ.*, Feb. 1987, 63(1), pp. 11-20. University of Maryland.

Clifford, Norman and Crawford, Vincent P.—Short-term Contracting and Strategic Oil Reserves

The effect of short-term contracting on resource extraction is studied in a two-country model of international trade in oil. Countries' planners are fully rational, with perfect information and perfect foresight. Contracts are perfectly enforceable and complete, except that short-term contracts do not allow commitments to actions taken beyond the contract period. The authors show that short-term contracting limits countries' opportunities for intertemporal consumption smoothing, reducing their collective tolerance for temporal variation in consumption. This tends to make them extract more slowly than in the efficient plan that results from long-term contracting. *Rev. Econ. Stud.*, Apr. 1987, 54(2), pp. 311-23. University of Kansas; University of California, San Diego and Princeton University.

Cory, Dennis C. and Saliba, Bonnie Colby—Requiem for Option Value

Option value, the difference between option price and expected surplus, has been investigated by a variety of authors concerned with benefit estimation under conditions of demand uncertainty. A critical review of recent theoretical developments is presented in which it is argued that option value is only of peripheral concern in the economics of natural environments. Instead, theoretical and empirical work should focus on the difference between the expected value of fair-bet, contingent-claims payments and the empirically tractable expected surplus measure of site benefits. *Land Econ.*, Feb. 1987, 63(1), pp. 1-10. University of Arizona.

Romero, Carlos and Rehman, Tahir—Natural Resource Management and the Use of Multiple Criteria Decision-making Techniques: A Review

This paper attempts to improve the awareness in the agricultural economics profession of the potential role that multiple criteria decision-making (MCDM) techniques can play in analyzing problems involving several objec-

tives. Important applications of the MCDM techniques to planning and management problems in fisheries, forestry, water, and land resources are reviewed, and some 150 applications are brought together to provide a unified source of reference. *Europ. Rev. Agr. Econ.*, 1987, 14(1), pp. 61-89. University of Cordoba, Spain; University of Reading, United Kingdom.

Schefter, John E.—Increasing Block Rate Tariffs as Faulty Transmitters of Marginal Willingness to Pay

Increasing block-rate tariffs transmit inaccurate signals of the marginal willingness to pay (MWTP) of consumers whose MWTP falls between the prices in adjoining rate blocks at the level of consumption associated with the inter-block boundary. Thus, the estimated parameters of demand functions for goods sold under such tariffs are, in general, biased. Simulation results suggest that failure to obtain hypothesized results under a Taylor-Nordin demand specification can, in part, be attributed to errors in the measurement of the MWTP of those consumers in the interblock price gap. *Land Econ.*, Feb. 1987, 63(1), pp. 21-33. U.S. Geological Survey, Reston, Virginia.

722 Conservation and Pollution

Ashworth, John; Papps, Ivy and Storey, David—Assessing the Impact upon the British Chlor-Alkali Industry of the EEC Directive on Discharges of Mercury into Waterways

In 1982 after protracted negotiations, the European Council of Ministers agreed on a Directive controlling aquatic discharges of mercury from the European chlor-alkali industry. By a substantial reduction in discharges, the U.K. industry can now comply with its terms, and this compliance has been hailed as a triumph for the Directive. This paper uses data provided by the U.K. industry and the authors' earlier estimation of the pollution discharge function to examine the extent to which this view is correct. It is found that, at most, 20 percent of the reduction in discharges may reasonably be attributed to the Directive. *Land Econ.*, Feb. 1987, 63(1), pp. 72-78. University of Durham, United Kingdom; University of Durham, United Kingdom; University of Newcastle-upon-Tyne.

inson, S. E. and Tietenberg, T. H.—Economic Implications of Emissions Trading Rules for Local and Regional Pollutants

In 1975 the United States Environmental Protection Agency initiated an historic process of regulatory reform, now known as the Emissions Trading Program. For nonuniformly distributed pollutants, such as sulfur dioxides, air quality is a function not only of the level of emissions, but their location and stack heights as well. The focus of this paper is how to protect local air quality and limit long-range pollutant deposition caused by emission trades, while allowing as much cost-reducing trading activity as possible. The authors examine the implications of two trading rules in two different sheds using programming simulation models. They find that the use of either trading rule represents a substantial improvement over relying exclusively on the current allocation of control responsibility. *Can. J. Econ.*, May 1987, 2), pp. 370-86. University of Georgia; Colby College.

Energy

and, Sudhir and Nalebuff, Barry—Issues in the Application of Cost-Benefit Analysis to Energy Projects in Developing Countries

This paper develops a theoretical framework to evaluate the benefits and costs of energy projects in oil-importing developing countries. It is used to address various questions: How would the problems of energy dependency and vulnerability be reflected in a project appraisal? Are there externalities not captured in the market price of the resource? Should royalty values be included in cost-benefit calculations? Why do the real prices of exhaustible resources rise over time? Should several energy-development projects be done simultaneously? What are the costs of stockpiling oil? Is there a need for coordinating information gathering and project diversification across countries? *Oxford Econ. Pap.*, Mar. 1987, 39(1), pp. 190-222. St. Catherine's College, Oxford; Princeton University.

celski, Elizabeth—Energy and Rural Women's Work: Crisis, Response and Policy Alternatives

In many developing countries, rural women are shouldering the major burden of environ-

mental degradation and economic distress, including energy shortages. Fuel for cooking and heating, wild foods, fodder, and biomass raw materials for small industry are becoming increasingly scarce, with serious repercussions on family nutrition, health, and income. Neither energy policies nor rural-development policies have so far come to grips with the links between rural women's work, energy, and the environment. Yet energy could potentially be an effective starting point for addressing women's priority food and income needs. If rural-development and energy policy goals are combined in a participatory approach to working with rural women, both objectives can be better met. *Int. Lab. Rev.*, Jan.-Feb. 1987, 126(1), pp. 41-64. International Labour Office, Geneva.

Köves, András—Some Questions of Energy Policy in East European Countries: Energy Supply and Foreign Economic Policy

The smaller European socialist countries have failed to adjust their economic policy priorities and their energy policy to the radical changes in the international environment. Instead of reducing per unit energy consumption, they tried to maximize primary energy and raw material imports. These efforts were related to the possibilities and interests of the U.S.S.R. as exporter, and to the concept of CMEA cooperation, which considers its basic task to satisfy the mostly physically determined demands of member countries from intra-CMEA sources to the greatest possible extent. *Acta Oecon.*, 1985, 35(3-4), pp. 345-57. Institute for Economic and Market Research, Budapest.

Vlachou, Andriana and Field, Barry C.—Regional Energy Substitution: Results from a Dynamic Input Demand Model

A dynamic input-demand model is used to study regional differences in substitution and speed-of-adjustment patterns at the two-digit manufacturing level. Results do not indicate strong differences among regions in terms of input-demand elasticities. There is weak evidence for slower adjustment speeds in the Northeast than in other regions. Energy and labor appear to have a different substitutability pattern in the Southeast than in other regions.

There are some clear sectoral differences that persist across regions. *Southern Econ. J.*, Apr. 1987, 53(4), pp. 952-66. Athens School of Economics and Business, Greece; University of Massachusetts.

800 Manpower; Labor; Population

810 MANPOWER TRAINING AND ALLOCATION; LABOR FORCE AND SUPPLY

811 Manpower Training and Development

Barnow, Burt S.—The Impact of CETA Programs on Earnings: A Review of the Literature

This paper reviews and assesses evaluations of the Comprehensive Employment and Training Act programs. Most studies have found: that the programs raised earnings by \$200.00 to \$600.00 annually; that they were more effective for women than men; and that public service employment and on-the-job training were more effective than classroom training and work experience. However, the studies differ significantly in many specific impact findings. The nonexperimental nature of the data required making specific assumptions about how individuals were selected to receive training. Because of these and other data limitations, it was impossible to determine which studies modeled the process correctly. *J. Human Res.*, Spring 1987, 22(2), pp. 157-93. ICF Incorporated.

Fraker, Thomas and Maynard, Rebecca—The Adequacy of Comparison Group Designs for Evaluations of Employment-Related Programs

This study investigates empirically the strengths and limitations of experimental versus nonexperimental designs for evaluating employment and training programs. It compares results from an experimental-design study—the National Supported Work Demonstration—with estimated impacts of Supported Work, based on comparison groups constructed from the Current Population Surveys. It finds that researchers cannot rely on nonexperimental designs to estimate the effectiveness of employment programs. Impact estimates tend to be sensitive to the comparison-group construction methodology and to the analytic model used.

Currently, no way exists *a priori* to ensure the validity of comparison-group studies as indicators of program impacts. *J. Human Res.*, Spring 1987, 22(2), pp. 194-227. Mathematica Policy Research Incorporated, Princeton, New Jersey.

Jimenez, Emmanuel and Kugler, Bernardo—The Earnings Impact of Training Duration in a Developing Country: An Ordered Probit Selection Model of Colombia's *Servicio Nacional de Aprendizaje* (SENA)

This study estimates the earnings impact of one of the most extensive in-service training programs in the developing world, Colombia's SENA, through a comparison of nongraduates' and graduates' earnings profiles. The possible influence of selection is corrected through the use of an ordered probit model to determine participation in short and long courses. The correction causes a significant decline in SENA's earnings effect. The results are robust with respect to alternative specifications of the selection model. *J. Human Res.*, Spring 1987, 22(2), pp. 228-47. World Bank, Washington, D.C.

813 Labor Force

Anker, Richard; Khan, M. E. and Gupta, R. B.—Biases in Measuring the Labour Force. Results of a Methods Test Survey in Uttar Pradesh, India

To obtain statistically valid information on the female labor force, which is often underreported by current data collection techniques, a methods survey of 1,621 households was carried out in India using roughly the same number of male and female interviewers, respondents answering for themselves and respondents answering for another, two types of questionnaires, and four labor force definitions. It was found that the sex of the interviewers and the respondents was not a major source of bias, but that the questionnaire design was very important. General questions of the sort that are used in censuses produced especially poor results. The broader the labor-force definition used, the more specific questions needed to be asked in order to obtain accurate information. *Int. Lab. Rev.*, Mar.-Apr. 1987, 126(2), pp. 151-67. International Labour Office, Geneva; Operations Research Group, Baroda, India; Operations Research Group, Baroda, India.

Ippolito, Richard A.—Why Federal Workers Don't Quit

Quit rates in the federal government are abnormally low. Some economists, and the federal government itself, have taken this to mean that federal wages are too high. This paper provides an alternative explanation. It shows that the timing of compensation across a career, as well as its level, affects quit rates. Pensions impose large penalties on workers who quit early. The portion of federal pay in the form of pensions is very high. This feature of the federal-pay structure may explain its abnormally low quit rate. As a general proposition, quit rates are poor indices for judging pay adequacy. *J. Human Res.*, Spring 1987, 22(2), pp. 281-99. Pension Benefit Guaranty Corporation, Washington, D.C.

820 LABOR MARKETS; PUBLIC POLICY

821 Labor Economics

Alogoskoufis, George S.—Aggregate Employment and Intertemporal Substitution in the UK

In this paper the author sets up, estimates, and tests an explicit model of aggregate labor supply based on the intertemporal substitution hypothesis. The model is derived as the optimal decision rule of an infinitely-living household maximizing an intertemporal CES utility function over consumption and leisure. The evidence suggests that for aggregate employee hours the model is rejected, but that for the total number of employees in employment the estimates are broadly consistent with the theory. The assumed constant elasticity of substitution is estimated at around 0.2, and this estimate implies a short-run real wage and real interest rate elasticity of labor supply of the same order. *Econ. J.*, June 1987, 97(386), pp. 403-15. Birkbeck College, London.

Black, Dan A.—The Social Security System, the Provision of Human Capital, and the Structure of Compensation

In this paper the author examines the effect of the current social security system on the structure of compensation that a wealth-maximizing worker selects. It is shown that the current method of benefit determination encourages an upward-sloping wage profile and that

the social security system alters the mix of wage and pension payments. In addition, the intra-generational transfers of the social security system alter the level of investment in human capital. As a result, the social security system reduces the disparity of income within the economy. *J. Lab. Econ.*, Apr. 1987, 5(2), pp. 242-54. University of Kentucky.

Browning, Martin—Co-operatives, Closures, or Wage Cuts: The Choices Facing Workers in an Ailing Firm

Workers faced with the prospect of the closure of their workplace have a limited range of alternatives. They can accept the closure, they can accept wage cuts, or they can take over the firm and form a cooperative. The author finds that if wages are determined in each period in a spot market, then there are circumstances in which workers prefer the latter option. In particular, he finds that workers in an ailing firm may well prefer the cooperative option to closure of their workplace. *Can. J. Econ.*, Feb. 1987, 20(1), pp. 114-22. McMaster University, Canada.

Carruth, Alan A. and Oswald, Andrew J.—On Union Preferences and Labour Market Models: Insiders and Outsiders

This paper constructs a model of trade-union behavior in which there is a distinction between "insiders" and "outsiders." This is used to examine one of the most troublesome issues in macroeconomic theory, namely, the extent to which a rise in aggregate demand might generate wage increases rather than growth in employment. A generalization of the most widely used union utility function is presented. The analysis reveals the conditions under which insiders will agree to let outsiders into employment, derives two-step wage preferences, and proves a new result on wage rigidity. *Econ. J.*, June 1987, 97(386), pp. 431-45. University of Kent; London School of Economics.

Heckman, James and Scheinkman, Jose—The Importance of Bundling in a Gorman-Lancaster Model of Earnings

This paper considers a multisector Gorman-Lancaster linear characteristics model of earnings in which workers cannot unbundle their

skills. Conditions are presented under which characteristics are uniformly priced across sectors. Empirical evidence is presented for the U.S. labor market that rejects the hypothesis of uniform pricing of characteristics. *Rev. Econ. Stud.*, Apr. 1987, 54(2), pp. 243-55. University of Chicago.

Jovanovic, Boyan—Work, Rest, and Search: Unemployment, Turnover, and the Cycle

This paper presents a model that generates procyclical search, procyclical labor productivity, and countercyclical unemployment broadly consistent with the actual behavior of these time series. Concretely, the model introduces an aggregate shock into the sectoral demand-shift model of the type analyzed by Robert Lucas and Edward Prescott. If aggregate shocks operate multiplicatively and are autocorrelated, the payoff to unemployed search can be procyclical to an extent large enough to offset the productive losses associated with search that also are procyclical. *J. Lab. Econ.*, Apr. 1987, 5(2), pp. 131-48. New York University.

Kiefer, Nicholas M.—A Proposition and an Example in the Theory of Job Search with Hours Constraints

This paper considers wage-hours contracts in the context of a job-search model. The response of a risk-averse worker to a wage translation of the offer distribution is examined. A robust example illustrates that some "natural" results need not hold. *J. Lab. Econ.*, Apr. 1987, 5(2), pp. 211-20. Cornell University.

Menchik, Paul L. and Weisbrod, Burton A.—Volunteer Labor Supply

The authors model the supply of volunteer labor, which received an explicit wage of zero. Quantitatively important, it constituted over 5 percent of total U.S. labor supplied in 1980. Both consumption and investment models are considered—the former positing volunteering as an ordinary consumer good, while the latter posits it as a means of obtaining work experience. Employing survey data, the authors find statistically significant effects of own price (net wage), cross price (net cost of money contributions), and income on volunteer labor supply. Since they find time and money contributions

to be net complements, reduced tax rates should reduce hours volunteered *ceteris paribus*. *J. Public Econ.*, Mar. 1987, 32(2), pp. 159-83. Michigan State University; University of Wisconsin, Madison.

Newbery, David M. and Stiglitz, Joseph E.—Wage Rigidity, Implicit Contracts, Unemployment and Economic Efficiency

Standard implicit contract theory can explain wage rigidity but not unemployment and pays insufficient attention to the general equilibrium aspects and constraints limiting the set of feasible contracts. Implicit contracts must specify an enforcement mechanism, can only be conditional on observable information, and must be of limited complexity. Without these restrictions contracts generate full employment which is constrained inefficient. Natural restrictions on enforceability or complexity alone do not produce unemployment, though limited observability may. With two or more restrictions unemployment may result. Specifically, periodic unemployment can arise if contracts are of limited complexity and cannot be enforced through third parties. *Econ. J.*, June 1987, 97(386), pp. 416-30. Churchill College, Cambridge; Princeton University.

Ohashi, Isao—Cyclical Variations in Wage Differentials and Unemployment

This paper attempts to reformulate in a general-equilibrium framework M. W. Reder's model, which explains cyclical variations in wage differentials and their general tendencies to narrow. Specifically, the author focuses on the three aspects of his model: the microeconomic behavior of a firm under imperfect information about labor quality; the mechanism of the economy creating unemployment; and the interaction between wage differentials and unemployment. Its implications for the macroeconomic issues on the characteristics of current unemployment and the question of why aggregate employment fluctuates are also explored. *J. Lab. Econ.*, Apr. 1987, 5(2), pp. 278-300. Nagoya University, Japan.

Wadhvani, Sushil B.—The Effects of Inflation and Real Wages on Employment

This paper considers the effects of inflation on employment. The absence of index-linked loans and the possibility that errors are committed in times of inflation, lead to a higher probability of bankruptcy during inflation. If firms care about bankruptcy, this implies a lower level of employment. Empirical results confirming this are presented, and suggest that higher inflation has substantially contributed to the fall in employment in the United Kingdom. The authors also demonstrate that a negative real-wage elasticity is not robust to changes in specification. *Economica*, Feb. 1987, 54(213), pp. 21-40. London School of Economics.

Wright, Randall and Loberg, Janine—Unemployment Insurance, Taxes, and Unemployment

Unemployment insurance is financed by a tax on wages below a given ceiling. Daniel S. Hamermesh (1977) advocates raising this ceiling on distributional grounds. In a job-search model, this does decrease unemployment among low-wage workers, but also increases unemployment among high-wage workers, and lowers everyone's expected after-tax wage. An increase in the ceiling, combined with a proportionate reduction in the tax rate, decreases unemployment for low-wage workers while increasing their after-tax wage, without affecting high-wage workers at all. When unemployment benefits and wages are taxed at one rate, employment and wages are independent of that rate. *Can. J. Econ.*, Feb. 1987, 20(1), pp. 36-54. Cornell University; Northwestern University.

522 Public Policy; Role of Government

Kahn, Shulamit—Occupational Safety and Worker Preferences: Is There a Marginal Worker?

Occupational safety levels in nonunion firms are empirically shown to reflect only the preferences of workers with zero to three years job tenure. Therefore, *ex post*, the market is inefficient even if workers were optimizing at the time of hire since there are trades possible among workers that would make all workers better off. The workers who are ignored in the safety-setting process, those workers with more than three years job tenure, prefer less, not

more, safety. *Rev. Econ. Statist.*, May 1987, 69(2), pp. 262-68. University of California, Irvine.

Petit, Pascal—Full-employment Policies in Stagnation: France in the 1980's

This paper sets out to ask what happened between 1981 and 1986 to the French policy of full employment. The cautious path followed led to the combination of long-term industrial restructuring with comprehensive monitoring of the labor market. Problems arose on both sides. Short-term policies on the labor market induced structural changes in patterns of work and participation. The goals of industrial restructuring seemed too remote from current problems of unemployment to get clear understanding and backing. This confirmed the idea that economic policies had become ineffective and thus reduced the scope for the further pursuit of comprehensive industrial policies. *Cambridge J. Econ.*, Dec. 1986, 10(4), pp. 393-406. CEPREMAP, Paris.

Viscusi, W. Kip and Moore, Michael J.—Worker's Compensation: Wage Effects, Benefit Inadequacies, and the Value of Health Losses

Using the 1977 Quality of Employment Survey in conjunction with BLS risk series and state workers' compensation benefit formulas, the authors assess the labor market implications of workers' compensation. Higher levels of workers' compensation benefits reduce wage levels, and controlling for workers' compensation raises estimates of compensating differentials for risk. The rate of trade-off between wages and workers' compensation suggests that benefit levels provide suboptimal levels of income insurance, abstracting from moral hazard considerations. The value of nonmonetary losses from job injuries (including pain and suffering and nonwork disability), is estimated to be \$17,000 to \$26,000. *Rev. Econ. Statist.*, May 1987, 69(2), pp. 249-61. Northwestern University; Duke University.

523 Labor Mobility; National and International Migration

Falaris, Evangelos M.—A Nested Logit Migration Model with Selectivity

The author specifies a multiple discrete-choice migration model with a correction for selectivity in wage equations, and applies a less restrictive technique for modeling multiple discrete choices than in previous studies of migration. The author estimates the model using Venezuelan microdata, and finds evidence of positive selection in some state wage equations. This suggests that migration decisions are made according to the principle of comparative advantage. Evidence is also found of unobserved similarities between some states of Venezuela such that individuals regard them as neither perfectly distinct nor perfect substitutes. *Int. Econ. Rev.*, June 1987, 28(2), pp. 429-43. University of Delaware.

Hughes, Gordon A. and McCormick, Barry—Housing Markets, Unemployment and Labour Market Flexibility in the UK

This paper examines regional migration and house movement for job-related reasons. The results indicate that public housing inhibits local movement for job-related reasons as well as migration. British migration rates are less than one-half of comparable American rates, even after adjusting for the impact of differences in tenure and college education patterns. There is little evidence that migration operates to reduce interregional differences in rates of unemployment. *Europ. Econ. Rev.*, Apr. 1987, 31(3), pp. 615-41. University of Edinburgh; University of Southampton and Cornell University.

de Vletter, Fion—Foreign Labour on the South African Gold Mines: New Insights on an Old Problem

The South African Government has warned that, if sanctions are imposed, it will end the recruitment of workers from its neighbors, with disastrous consequences for their economies. How real is this threat? An analysis of new labor-force data from the largest South African mining group brings out the gold mines' current heavy dependence on skilled foreign workers. But the mines' changing recruitment policy suggests that in future foreign workers will be increasingly phased out of the industry in favor of a more stable domestic labor force. *Int. Lab. Rev.*, Mar.-Apr. 1987, 126(2), pp. 199-218. International Labour Office, Geneva.

834 Labor Market Studies, Wages, Employment
Bell, Donald and Marclay, William—Trends in Retirement Eligibility and Pension Benefits, 1974-83

Reduced age requirements for retirement and improved pension payments emerged as major changes between 1974 and 1983 in a sample of pension plans analyzed by the Bureau of Labor Statistics. A group of 187 pension plans either fully or partially paid for by employers was studied. The plans were all those common to a 1974 BLS survey of pension plans whose provisions were filed with the U.S. Department of Labor under the terms of the Welfare and Pension Plan Disclosure Act of 1958, as amended and the 1983 Employee Benefits Survey of medium and large firms. *Mon. Lab. Rev.*, Apr. 1987, 110(4), pp. 18-25. Bureau of Labor Statistics, Washington, D.C.

Blau, David M.—A Time-series Analysis of Self-Employment in the United States

In the early 1970s the proportion of the non-agricultural labor force self-employed in the United States ceased its downward trend and has been rising ever since. This study provides an analysis of the causes of this change. A general-equilibrium model of self-employment and wage employment is analyzed, and aggregate U.S. time-series data are used to test predictions derived from the model. The empirical analysis indicates that changes in technology, industrial structure, tax rates, and social-security retirement benefits have contributed to the reversal of the previous downward trend, which had persisted for over a century. *J. Polit. Econ.*, June 1987, 95(3), pp. 445-67. University of North Carolina.

Brown, Sharon P.—How Often Do Workers Receive Advance Notice of Layoffs?

In September 1986, the Bureau of Labor Statistics surveyed establishments in seven States which participated in the Bureau's layoff system—soon to be nationwide. A total of 248 establishments responded, accounting for 271 layoffs and the separation of 67,800 workers, 49,327 of whom filed for unemployment compensation. About 2 out of 3 layoffs occurred in the surveyed States without workers receiving advance general notice. When advance general

notice was provided, workers were usually given an average 46 days notice. In slightly more than half of the layoffs, establishments provided specific notice of more than 1 day to employees, averaging 18 days of notice. *Mon. Lab. Rev.*, June 1987, 110(6), pp. 13-17. Bureau of Labor Statistics, Washington, D.C.

Davis, Douglas D.—Maximal Quality Selection and Discrimination in Employment

Unlike a sample mean, the expected value of a sample maximum is directly related to the number of observations in the sample. Thus, if employers draw inferences about population quality from the maximal-quality black and white candidates interviewed in a job search, employers may perceive the black population to be inferior to the white population, even when racial ability distributions are identical. This paper uses experimental methods to examine the effects of maximal-quality selection on decision makers' population quality perceptions. Experimental results suggest that maximal-quality selection creates a misperception of minority inferiority, particularly when decision makers are forced to maintain a record of maximal observations from minority and majority groups, and that maximal-quality selection perpetuates quality misperceptions even when the minority population is in fact of superior average quality. *J. Econ. Behav. Organ.*, Mar. 1987, 8(1), pp. 97-112. Federal Trade Commission, Washington, D.C.

Falus-Szikra, Katalin—Wage and Income Disparities between the First and Second Economies in Hungary

There is a dual wage and income level in Hungary: wages in the sector of large enterprises are significantly lower than in the private sector and, generally, in the scope of small ventures. The main cause of this large income disparity is the shortage present in the whole economy and the deriving weakness of competition. The disparity can and should be eliminated by raising the wage level in the state sector and by moderating excessively high incomes in the second economy which are not proportionate to performance. *Acta Oecon.*, 1986, 36(1-2), pp. 91-103. Karl Marx University of Economics, Budapest, Hungary.

Gordon, Robert J.—Productivity, Wages, and Prices inside and outside of Manufacturing in the U.S., Japan, and Europe

This paper studies changes in productivity, wages, and prices, based on a new data set for the aggregate economy, the manufacturing sector, and the nonmanufacturing sector. Results are presented for the United States, Japan, and a European aggregate consisting of eleven European economies. Differences between Europe and the United States have been exaggerated in recent work. Europe has neither greater nominal-wage flexibility nor more rigid real wages than the United States. Evidence that the United States exhibits more nominal rigidity is confined to manufacturing. These results undermine the argument that, because the European aggregate supply curve is uniquely vertical, demand expansion in Europe is inopportune. *Europ. Econ. Rev.*, Apr. 1987, 31(3), pp. 685-733. Northwestern University and National Bureau of Economic Research.

Horvath, Francis W.—The Pulse of Economic Change: Displaced Workers of 1981-85

This article includes principal findings of a special supplement to the Current Population Survey sponsored by the Employment and Training Administration. The survey's supplement, almost identical to a study conducted in January 1984, was designed to answer some of the questions about "displaced workers." Altogether, a total of 10.8 million workers 20 years of age and over answered that they had lost a job because of plant closings, employers going out of business, or layoffs. The survey focuses on those displaced workers who had spent 3 years or more of tenure on the jobs they lost, some 5.1 million. *Mon. Lab. Rev.*, June 1987, 110(6), pp. 3-12. Bureau of Labor Statistics, Washington, D.C.

Kraft, Kornelius—Exit and Voice in the Labor Market: An Empirical Study of Quits

The topic of this article is the study of quit rates experienced by medium-sized German firms of the metal industry. The hypothesis of the exit-voice tradeoff in the labor market is investigated by explicitly taking into account the decision rights of workers. It can be shown that decision rights have a significant negative

effect on quits, but no feedback relation can be found. Furthermore, the effects of human-capital investment and working conditions on turnover are analyzed. *J. Inst. Theoretical Econ.*, Dec. 1986, 142(4), pp. 697-715. Gesamthochschule Kassel, West Germany.

Miller, Paul W.—Gender Differences in Observed and Offered Wages in Canada, 1980

According to the 1981 Census of Canada, the female rate of pay is 30 percent less than the male rate. The average female wage offer, however, is only around one-half of that received by males, other things being equal. Slightly more than one-half of the difference in observed wages can be explained by differences in wage-related characteristics between males and females. Two-fifths of the disparity between wage offers can be explained by the same set of factors. Analysis of the distribution of wage offers indicates greater wage inequality in the Canadian labor market than suggested by study of observed wages. *Can. J. Econ.*, May 1987, 20(2), pp. 225-44. Brunel University, Uxbridge, United Kingdom and Australian National University, Canberra.

Nakosteen, Robert A. and Zimmer, Michael A.—Marital Status and Earnings of Young Men: A Model with Endogenous Selection

It is a matter of course in applied labor economics to presume that marital status is a predetermined contributor to earnings among young males. The authors find no evidence to support that proposition. They estimate a model of earnings determination that permits endogenous selection of marital status. Estimates are based on a sample of young employed males from the Michigan panel Survey of Income Dynamics, and indicate that marital status, viewed in this manner, does not significantly shift the mean earnings profile. Sensitivity tests indicate that the conclusion is robust with respect to a variety of alternative specifications. *J. Human Res.*, Spring 1987, 22(2), pp. 248-68. University of Massachusetts; University of Evansville.

Perloff, Jeffrey M. and Sickles, Robin C.—Union Wage, Hours, and Earnings Differentials in the Construction Industry

Full-information maximum likelihood is used to estimate union wage, hours, and earnings markups. Construction union wage markups are positive (58.2 percent at the sample means). Since union hours markups are negative (-4.0 percent) for most demographic groups, union earnings markups (51.1 percent) are smaller than the wage markups. All exogenous variables are allowed to interact with the endogenous union dummy variable, which allows us to test whether markups vary across demographic groups, whether increased local unionization has a positive spillover effect in the nonunion sector, and whether increased local unemployment equally affects wages and hours in the two sectors. *J. Lab. Econ.*, Apr. 1987, 5(2), pp. 174-210. University of California, Berkeley; Rice University.

Polachek, Solomon W. and Yoon, Bong Joon—A Two-Tiered Earnings Frontier Estimation of Employer and Employee Information in the Labor Market

This paper develops a "two-tiered frontier" estimation procedure to decompose the residual of an earnings function into three components. The first component can be interpreted as being purely random. Search theory is used to show that the other two components represent employee and employer ignorance of offer and reservation wages respectively. Relative employee and employer ignorance estimates are presented for various population strata. *Rev. Econ. Statist.*, May 1987, 69(2), pp. 296-302. State University of New York at Binghamton.

Riechel, Klaus-Walter—Labor Market Disequilibrium and the Scope for Work-Sharing: A Case Study of the Netherlands

This paper assesses the preconditions and scope for work sharing—an arrangement combining higher employment with shorter working hours—by examining disequilibrium in the Dutch labor market. Although workers' labor-supply functions, wage restraint, and official labor-market policies seem to favor work sharing, employers' preferences seem to counter the arrangement. To examine firms' employment preferences and their causes, the paper develops a small model to estimate the effect on labor

demand of the desired split of labor inputs between employment and working hours. Results suggest strong impediments to work sharing in the Netherlands. *Int. Monet. Fund Staff Pap.*, Sept. 1986, 33(3), pp. 509-40. International Monetary Fund, Washington, D.C.

Tachibanaki, Toshiaki—Labour Market Flexibility in Japan in Comparison with Europe and the U.S.

This paper examines aspects of labor market flexibility in Japan, Europe and the United States, emphasizing Japan. It investigates the importance of labor supply, mobility, adjustment costs, the flexibility of wages, and the seriousness of unemployment. Various reasons are given why the rate of unemployment in Japan is a poor indicator of labor-market conditions. While Japan has flexibility in some areas, rigidity is also observed in other areas. It is concluded that flexibility does not contribute to an improved performance of the Japanese labor market, and that achieving flexibility has significant costs. Labor-market flexibility should not be introduced in other countries prior to a careful examination of the costs and benefits. *Europ. Econ. Rev.*, Apr. 1987, 31(3), pp. 647-78. Kyoto University, Japan.

Yamada, Tadashi and Yamada, Tetsuji—Part-time Work of Married Women in Urban Japan

There has been a great increase in the part-time employment of married women in Japan in recent years. The authors apply a logit model of the part-time labor force participation of married women to the 1980 Population Census data of Japan. The wage elasticity of the part-time labor force participation of married women is significantly positive and larger than the elasticity of their full-time counterparts. An increase in the husband's income discourages the incentive for married women to work part time, while the married women working part time are extremely vulnerable to the business cycle. *Quart. Rev. Econ. Bus.*, Spring 1987, 27(1), pp. 41-50. National Bureau of Economic Research, and Graduate School and University Center of City University of New York; Graduate School and University Center of City University of New York.

826 Labor Markets: Demographic Characteristics
Even, William E.—Career Interruptions Following Childbirth

The aggregate probability of ending a career interruption that begins at childbirth is shown to diminish rapidly with the length of the interruption. The empirical models estimated suggest that the decline can be explained by a combination of structural duration dependence, unobserved heterogeneity, and differences in observed characteristics. The probability of returning to employment for a group of women with identical observed characteristics is found to have an L-shaped distribution for the majority of the sample, suggesting that many women have a very low probability of returning. *J. Lab. Econ.*, Apr. 1987, 5(2), pp. 255-77. Miami University, Oxford, Ohio.

**830 TRADE UNIONS; COLLECTIVE BARGAINING;
LABOR-MANAGEMENT RELATIONS**

831 Trade Unions

Beladi, Hamid and Brunner, Lawrence P.—Trade Unions and Money Wage Changes in U.S. Manufacturing Industries: Further Empirical Evidence

This paper performs Granger causality tests on quarterly union-scale wage changes and average hourly earnings in U.S. manufacturing from 1958 to 1978. It is shown that average hourly earnings have feedback effects on union-scale wages and vice versa. Average hourly earnings changes cause union-scale wage changes and vice versa. A unidirectional view of causation (from union-scale wages to earnings), therefore, is flawed. Policy makers are not justified in focusing only on major union contracts when implementing income policies. Also, analysis of industry hourly earnings should use structural wage equations that could capture the interactions between simultaneously determined variables such as hourly earnings and union-scale wages. *Quart. J. Bus. Econ.*, Summer 1987, 26(3), pp. 79-86. Central Michigan University.

Faith, Roger L. and Reid, Joseph D., Jr.—An Agency Theory of Unionism

An agency theory of unionism is developed to explain the diversity of union accomplishments by the diversity of principals, the diver-

sity of costs of providing union benefits, and the potential for agent malfeasance. The theory produces a number of testable hypotheses, including: larger plants will unionize before smaller plants; the scope of union representation will grow as members go from untrained to specifically trained to generally trained; employers will pay for union representation of unskilled employees, but not for others; and the slope of earnings with respect to seniority will be flatter in union firms than in nonunion firms. *J. Econ. Behav. Organ.*, Mar. 1987, 8(1), pp. 39-60. Arizona State University; George Mason University.

832 Collective Bargaining

Lacombe, John and Borum, Joan—Major Labor Contracts in 1986 Provided Record Low Wage Adjustments

In 1986, major collective-bargaining settlements in private industry provided record-low wage and compensation adjustments, reflecting both employers' and unions' efforts to curb labor costs. Their task was made easier by continued moderate upward pressures on wages from comparatively small increases in consumer prices. According to the Bureau of Labor Statistics' nineteen-year-old series on private industry agreements covering 1,000 workers or more, wage adjustments—the net effect of decisions to increase, decrease, or not change wages—under settlements reached during 1986 averaged 1.2 percent in the first contract year and 1.8 percent annually over the contract term. *Mon. Lab. Rev.*, May 1987, 110(5), pp. 10-16. Bureau of Labor Statistics, Washington, D.C.

Schnell, John F. and Grant, Cynthia L.—Learning by Striking: Estimates of the Teetotaler Effect

The authors hypothesize that past strike experience will have a negative or "teetotaler" effect on a collective bargaining unit's propensity to strike in future negotiations, other things being equal. They test this using a unique micro-level sample comprising four consecutive negotiations by 147 bargaining units in U.S. manufacturing industries, controlling for observable and unobservable differences among bargaining pairs in the propensity to strike. The

results are consistent with the view experience of striking is, indeed, lagged strike experience variables have a significantly negative effect on the propensity to strike in the current negotiation. *J. Lab. E.* 1987, 5(2), pp. 221-41. Syracuse U. Cornell University.

Tracy, Joseph S.—An Empirical Test of an Asymmetric Information Model of

Recent developments in the theory of strategic bargaining demonstrate how information asymmetries can lead to prolonged strikes. These models can be applied to actual negotiations, yielding an economic theory of strikes. To date, few empirical tests of these models have been carried out. In this paper, a set of predictions concerning the frequency and unconditional duration of strikes is derived from a simple bargaining model in which the union is uncertain about the firm's future profitability. These predictions are then tested using a micro data set of major U.S. contract negotiations that took place from 1973-77. *Econ. Apr.* 1987, 5(2), pp. 149-73 Yale University.

850 HUMAN CAPITAL; VALUE OF HUMAN CAPITAL

851 Human Capital; Value of Human Capital
Armitage, Jane and Sabot, Richard—Human Capital Background and the Return to Schooling in Two Low-income Economies

In the United Kingdom, the income yielded by an additional year of schooling declines as the occupational status of the worker's father rises. In this note the relationship between family background and returns to schooling is measured in Kenya and Tanzania. In contrast to the United Kingdom, a positive relationship is documented between family background and returns to schooling in these two low-income economies. Explanations for this marked difference between a high-income economy and two low-income economies are suggested. *Economica* 1987, 54(213), pp. 103-08. World Bank, Washington, D.C. and Williams College, Williamstown, Mass.

Feuer, M.; Glick, H. and Desai, A.—Sponsored Education Viable?

This paper challenges the common human capital assumption that profit-maximizing

firms cannot invest in their employees' general training. The authors argue that general training is provided to equilibrate a hostage-type relationship that exists when firms and workers share investments in specific training, and that the firm's investment in general training is not necessarily subject to poaching hazards. The authors then test the viability hypothesis empirically, using data from a longitudinal survey of natural and social scientists and engineers. Our results suggest that: (1) firm investments in general training programs are not necessarily paid for by foregone earnings; and (2) turnover rates do not rise as a function of firm-sponsored general training. These results are discussed in terms of the current policy debate over corporate education expenditures. *J. Econ. Behav. Organ.* Mar. 1987, 8(1), pp. 121-44. Drexel University; University of Pennsylvania; Ohio State University.

Johnson, William R.—Income Redistribution as Human Capital Insurance

This paper considers whether extant empirical evidence is consistent with the view of income redistribution as human capital insurance. If parents can invest in their children with schooling and bequests, but the returns to schooling are risky because diversification is limited, then risk-averse parents may choose redistribution. Under certain conditions, the desired amount of income redistribution rises with the return to human capital. Cross-country comparisons show a positive relation between industrial activity and income redistribution. This is consistent with the theory if the return to human capital investment is raised by industrialization. Other interpretations may explain this finding. *J. Human Res.*, Spring 1987, 22(2), pp. 269-80. University of Virginia.

900 Welfare Programs; Consumer Economics; Urban and Regional Economics

910 WELFARE, HEALTH, AND EDUCATION

Gács, Endre—Hungary's Social Expenditures in International Comparison

The relative level of social expenditure in Hungary is not high as compared either to the average or to the countries standing close to

her geographically or in development level. The level and share of health expenditures is strikingly low in the country. The real increase of expenditures in Hungary was somewhat above the average of the developed countries during the 1960s and 1970s while the increase of the old-age pension fund was extremely fast. The factors of increase in individual periods are similar to those of the majority of the OECD countries. *Acta Oecon.*, 1986, 36(1-2), pp. 141-54. National Planning Office, Budapest, Hungary.

911 General Welfare Programs

O'Neill, June A.; Bassi, Laurie J. and Wolf, Douglas A.—The Duration of Welfare Spells

Probability distributions for the duration of welfare spells are estimated. The principle guiding the work is that a recipient will not exit from welfare if the expected utility on welfare exceeds the expected utility off welfare. The analysis indicates that while the majority of welfare spells are of short duration, a nontrivial minority of spells are quite long. Those recipients with long spells are found to differ in predictable ways from those experiencing brief spells. This suggests that strategies to move women off welfare are unnecessary in many cases, and should be targeted on those most likely to be long-term recipients. *Rev. Econ. Statist.*, May 1987, 69(2), pp. 241-48. U.S. Commission on Civil Rights, Washington, D.C.; Georgetown University; International Institute for Applied Studies, Vienna.

Ranney, Christine K. and Kushman, John E.—Cash Equivalence, Welfare Stigma, and Food Stamps

This study explores the cash equivalence of food stamps and program-participation-related welfare stigma. The authors clarify important distinctions between cash equivalence in utility and in food demand within the context of the program, and between the program and an alternative cash transfer program. The analysis of program participation suggests that stamps are: nearly cash equivalent in the market goods component of utility; not cash equivalent in the nonmarket components due to welfare stigma; and not cash equivalent in food demand. Stamps increase expenditures on food more

than cash by a factor of six to one. *Southern Econ. J.*, Apr. 1987, 53(4), pp. 1011-27. Cornell University; University of California, Davis.

912 Economics of Education

Arcelus, F. J. and Levine, A. L.—Merit Goods and Public Choice: The Case of Higher Education

This paper examines the supply and demand behavior of taxpayers as "suppliers" and students as "beneficiaries" of the higher-education process. The authors treat higher education as a merit good, and present an argument in favor of an assumption of nonreciprocal interdependence between the taxpayers and the beneficiaries. They conclude that there is no evidence to support the proposition that subsidies-in-kind, in the form of attendance at and only at a state institution, have had a retardative effect on the aggregate production/consumption of higher education. *Public Finance*, Dec. 1986, 41(3), pp. 303-15. University of New Brunswick.

Throsby, C. D.—Cost Functions for Australian Universities

This paper reports some new cost functions for the Australian university sector, estimated using pooled data at the interinstitution level and cross-section data at the interfaculty level. The results shed some light on scale relationships between and within universities in Australia, and enable some quantification of the cost differences between the arts, natural science, and professional-scientific subject areas. After allowance is made for resources devoted to research, teaching-only recurrent costs are derived which form a basis for a broad evaluation of alternative tuition-fee proposals for Australian universities at the present time. *Australian Econ. Pap.*, Dec. 1986, 25(47), pp. 175-92. Macquarie University, Australia.

913 Economics of Health (including medical subsidy programs)

Berger, Mark C., et al.—Valuing Changes in Health Risk: A Comparison of Alternative Measures

Willingness-to-pay measures for human health risk reduction are compared with alter-

native measures using a model which incorporates uncertainty, endogenous health, mortality, and morbidity. It is shown that expected private costs of illness and preventive expenditures are not special cases of willingness to pay. However, for pure morbidity, under plausible conditions these alternative measures are lower bounds on willingness to pay. Results from a contingent valuation survey for the avoidance of seven light symptoms show that deterministic consumer surplus exceeds actual private costs of illness and imply that willingness to pay is greater than expected private costs of illness. Coauthors are Glenn C. Blomquist, Don Kenkel, and George S. Tolley. *Southern Econ. J.*, Apr. 1987, 53(4), pp. 967-84, University of Kentucky.

Coyte, Peter C.—Alternative Methods of Reimbursing Hospitals, and the Impact of Certificate-of-Need and Rate Regulation for the Hospital Sector

This paper employs the technique of equalizing differences to provide a conceptual framework which is directly amenable to an analysis of an array of hospital regulatory programs. In this analysis, state certificate-of-need laws and the program of rate regulation are shown to affect not only the equilibrium bundle of services but also various accounting measures of hospital costs and the demand for factor inputs. The main conclusion of this study is that both the method of prospective reimbursement for hospitals and the existing regulatory environment jointly determine the endogenous variables. *Southern Econ. J.*, Apr. 1987, 53(4), pp. 858-73. University of Alberta.

Cromwell, Jerry and Mitchell, Janet B.—Physician-Induced Demand for Surgery

This paper provides several tests of neoclassical and inducement theories of surgical demand. A simultaneous equation model is used to estimate physician demand and equilibrium fees for surgery from a sample of 350 Primary Sampling Units over the 1969-76 period. The results support the notion of competitive market failure—particularly in large metropolitan areas. Other things equal, fees and utilization are higher in surgeon-rich areas although the estimated shift elasticities were only about one-

third of those found by Victor R. Fuchs (1978). A statistically significant, albeit small, price elasticity of demand for surgery was also obtained, in contrast to Fuchs. *J. Health Econ.*, Dec. 1986, 5(4), pp. 293-313. Center for Health Economics Research, Needham, Massachusetts.

Farley, Pamela J.—Theories of the Price and Quantity of Physician Services: A Synthesis and Critique

The difficulty in applying the neoclassical model of supply and demand to physician services is the rationing of resources directly by physicians, eliminating the allocative function of prices. Welfare consequences are appropriately judged in terms of efficiency and equity, not departures from the structural relationships implied by supply and demand. As interpreted here, both competitive theories and target-income theories imply that physicians consider both their own welfare and their parents' welfare in their pricing and prescribing decisions. The distribution between patients and physicians of the resulting social gains is determined by professional ethics within bounds imposed by competitive forces. *J. Health Econ.*, Dec. 1986, 5(4), pp. 315-33. National Center for Health Services Research, Rockville, Maryland.

Register, Charles A. and Bruning, Edward R.—Profit Incentives and Technical Efficiency in the Production of Hospital Care

Based on a combination of linear programming and regression techniques, it was determined that significant technical efficiency differences did not exist between for-profit and nonprofit hospitals in a nationwide sample of 457 hospitals. The sample included 300 nonprofit, 121 for-profit, and 36 government hospitals during 1983. The method employed was to determine an efficiency index for each hospital using linear programming and then to use this index as a dependent variable in a regression designed to explain existing differences in efficiency. Given sample matching, the result should not be extended to the population without care. *Southern Econ. J.*, Apr. 1987, 53(4), pp. 899-914. Kent State University.

914 Economics of Poverty

Kanbur, S. M. Ravi—Measurement and Alleviation of Poverty: With an Application to the Effects of Macroeconomic Adjustment

This paper reviews the measurement of poverty, analyzes alternative strategies for poverty alleviation, and suggests a methodology for evaluating the impact of macroeconomic adjustment on poverty. The paper begins with the conceptual basis of alternative poverty lines and indices, then introduces "crossover time," the time taken for an average poor person to cross the poverty line if his income grew at the national per capita income growth rate. The paper discusses targeting public expenditure on the poor, analyzes macroeconomic adjustment and poverty, and derives rules for when expenditure reduction or expenditure switching will increase or decrease poverty. *Int. Monet. Fund Staff Pap.*, Mar. 1987, 34(1), pp. 60-85. University of Warwick and Princeton University.

915 Social Security

Feldstein, Martin S.—Should Social Security Benefits Be Means Tested?

Social-security retirement benefits distort the saving decisions of workers who are rational enough to save for their future. Since the implicit rate of return in an unfunded social-security program is less than the marginal product of capital, the resulting decline in saving causes a welfare loss. The present paper examines the conditions under which the welfare loss can be reduced by replacing the current universal social-security program with a means-tested program that pays benefits only to those individuals with little or no other retirement income or assets. *J. Polit. Econ.*, June 1987, 95(3), pp. 468-84. Harvard University and National Bureau of Economic Research.

Greenblum, Joseph and Bye, Barry—Work Values of Disabled Beneficiaries

This article compares data on a particular concept of work values, the importance to the self of having a job, for social security disability insurance beneficiaries, other disabled persons, and nondisabled persons. Descriptive comparisons of these three groups with similar demographic characteristics indicates that belief in the importance of a job does not decline after

entitlement to disability insurance benefits. The findings support current efforts to promote re-employment through work-incentive and vocational-rehabilitation policies. *Soc. Sec. Bull.*, Apr. 1987, 50(4), pp. 67-74. Social Security Administration, Washington, D.C.

917 Economics of Minorities; Economics of Discrimination

Tzannatos, Zafiris—A General Equilibrium Model of Discrimination and Its Effects on Incomes

A general-equilibrium model is utilized to examine the effects upon factor incomes of the narrowing of an arbitrary wage differential between two groups of workers. The empirical section draws upon the recent experience of female workers in Britain after the introduction of the Equal Pay Act. The results suggest that profits are more likely to decrease when arbitrary wage differentials narrow, and this conclusion casts doubt whether many of the neoclassical theories of discrimination are relevant to the empirical study of discrimination. *Scott. J. Polit. Econ.*, Feb. 1987, 34(1), pp. 19-36. University of Buckingham.

920 CONSUMER ECONOMICS

921 Consumer Economics; Levels and Standards of Living

Behrman, Jere R. and Deolalikar, Anil B.—Will Developing Country Nutrition Improve with Income? A Case Study for Rural South India

The World Bank and others maintain that the major mechanism for improving nutrition in poor communities is increases in income. Aggregate estimates of food expenditure are consistent with such a possibility, implying income/expenditure elasticities close to one. However, the high degree of aggregation at which such estimates are made means that the considerable increase in price per nutrient as income increases is ignored, and the nutrient elasticities are therefore overstated. Estimates for a rural south Indian sample indicate that this bias is considerable and that the true nutrient elasticities with respect to income may be close to zero. *J. Polit. Econ.*, June 1987, 95(3), pp. 492-507. University of Pennsylvania.

Cox, Donald—Motives for Private Income Transfers

Private income transfers are becoming increasingly recognized as a key aspect of the U.S. economy. The majority of private income transfers occur *inter vivos* (i.e., between living persons), but very little is known about this type of transfer behavior. This paper tests alternative hypotheses concerning motivation for *inter vivos* transfers. Two motives are considered: altruism and exchange. Evidence presented here casts doubt on the altruistic model of transfer behavior. Observed patterns for *inter vivos* transfers are more consistent with exchange-related motives. This finding has important implications for the effects of public transfer programs on the distribution of economic well-being. *J. Polit. Econ.*, June 1987, 95(3), pp. 508-46. Washington University.

Gupta, Kanhaya L.—Aggregate Savings, Financial Intermediation, and Interest Rate

There has been considerable controversy about the role of financial factors as determinants of savings in developing countries. This paper explores the importance of two such factors, namely, real interest rate and financial intermediation. Using pooled time-series, cross-section data, a model of savings is estimated for Asia, Latin America, and for the total sample. Particular attention is paid to the error structure in estimation. The results suggest that pooling is not justified. Further, there is no unequivocal support for the effect of either of the two factors; some qualified support is found for Asia but none for Latin America. *Rev. Econ. Statist.*, May 1987, 69(2), pp. 303-11. University of Alberta.

Hill, Daniel H.—Derived Demand Estimation with Survey Experiments: Commercial Electric Vehicles

In this paper the author examines the demand for a hypothetical input, electric over-the-road vehicles, in the commercial sector using data from a survey experiment. This experiment is designed to allow the estimation of theoretically-plausible, derived-demand functions from either the Translog or the CES production functions. A heteroscedasticity-corrected, two-limit Tobit model is developed and estimated. The results provide evidence of con-

siderable adaptability to new technologies and price structures on the part of firms. They evidently would be willing to cope with the limited traveling range of electric vehicles if these vehicles were able to provide a less costly means of doing business. *Rev. Econ. Statist.*, May 1987, 69(2), pp. 277-85. Institute for Social Research, University of Michigan.

Kovács, Ilona—International Comparison of Consumption Patterns by Cluster Analysis

This study compares the structures of private personal consumption in seventeen OECD countries on different levels of economic development and in Hungary with the aid of cluster analysis in the years between 1965-81. The ranking of countries by similarities in their consumption levels shows a close interrelation with their ranking by economic development level, but the influence of relative prices is also important. Hungary forms a cluster of her own, and consumption in this country is characterized by: a relatively high share of food; an exceptionally high share of alcoholic beverages; and a low share of housing and health expenditures. *Acta Oecon.*, 1985, 35(3-4), pp. 313-26. Institute of Economics, Hungarian Academy of Sciences, Budapest.

Warshawsky, Mark J.—Sensitivity to Market Incentives: The Case of Policy Loans

The standard neoclassical theory is rejected as an explanation for the observed reluctance of most holders of whole life insurance to borrow against the cash value of their policies at favorable rates of interest. Even when the neoclassical theory is augmented with transactions costs and short awareness lags, several empirical tests using survey and time-series data reject the standard theory in favor of an explanation invoking self-imposed rules against borrowing or the "debt ethic." This evidence lends support to the psychology-based theories of Thaler and Shefrin (1981). *Rev. Econ. Statist.*, May 1987, 69(2), pp. 286-95. Board of Governors of the Federal Reserve System, Washington, D.C.

930 URBAN ECONOMICS

932 Housing Economics

Blackley, Dixie M. and Fellais, James R.—Tests of Locational Equilibrium in the Standard Urban Model

The primary purpose of this paper is to examine the empirical validity of the locational equilibrium condition associated with the standard urban economics model. Household data from the Annual Housing Survey are the basis for all of the empirical analysis. The results indicate the locational equilibrium condition is generally not satisfied; this is especially true for owners. In particular, households appear to commute much longer distances than those predicted by the locational equilibrium condition. Also, the results indicate that OLS estimates of a housing demand equation and a location equation may be biased. Non-linear least squares estimates that incorporate the simultaneity between housing demand and locational equilibrium are offered as an alternative. *Land Econ.*, Feb. 1987, 63(1), pp. 46-61. LeMoyne College; University of Illinois.

940 REGIONAL ECONOMICS

941 Regional Economics

Beeson, Patricia—Total Factor Productivity Growth and Agglomeration Economies in Manufacturing, 1959-73

This paper investigates the determinants of productivity growth in the manufacturing sector of states over the period 1959-73. Special emphasis is placed on isolating the effects of a state's urbanization characteristics on productivity growth. Urbanization characteristics considered include the spatial arrangement of cities along with the standard measures of urbanization. The results indicate that while both scale economies and technical change are related to urbanization characteristics, the effects tend to be offsetting; no relationship is found between urbanization and overall productivity growth as measured by total factor productivity growth. *J. Reg. Sci.*, May 1987, 27(2), pp. 183-99. University of Pittsburgh.

Drewes, Torben—Regional Wage Spillover in Canada

The persistently high unemployment rate of the Atlantic Region of Canada may be a symptom of importation into the region of inappropriately high wage levels from other Canadian regions. A theoretical explanation for the existence of such interregional wage spillover is

offered. The hypothesis of spillover is empirically examined using data on the wage change provisions of individual contracts in the manufacturing sector. Possible econometric problems associated with contract data are examined and corrective measures taken. Results of the estimation support the hypothesis that wage spillover plays a role in the determination of Atlantic Region wages. *Rev. Econ. Statist.*, May 1987, 69(2), pp. 224-31. Trent University, Canada.

Folmer, Henk and Nijkamp, Peter—Investment Premiums: Expensive but Hardly Effective

This Paper discusses the effects of the investment premiums arrangement, which is one of the main instruments of regional economic policy in most Western countries. On the basis of theoretical considerations and various Dutch case studies, it is concluded that a basic revision of this policy instrument might lead to a reduction of the costs and an improvement of the effects. The case study presented in this paper applies the LISREL framework which allows the handling of latent and observable variables simultaneously. In this way, effects of policy packages, which are defined as latent variables, can be analyzed. *Kyklos*, 1987, 40(1), pp. 43-72. Agricultural University, Wageningen; Free University, Amsterdam.

Friesz, Terry L. and Luque, Javier—Optimal Regional Growth Models: Multiple Objectives, Singular Controls, and Sufficiency Conditions

The authors develop a generalized Harrod-Domar type of model for optimal regional growth which allows determination of the optimal allocation of regional public investments and which considers multiple growth objectives, as well as both normal and singular fiscal instruments. This general model is shown to include most of the previous optimal regional growth models as special cases that verify that singular controls do exist in certain instances, and that they must be considered for the complete specification of optimal regional growth policies. This is significant because singular controls have not been previously analyzed in the literature. *J. Reg. Sci.*, May 1987, 27(2),

pp. 201-24. University of Pennsylvania; University of North Florida.

Garhart, Robert E. and Giarratani, Frank—Nonsurvey Input-Output Estimation Techniques: Evidence on the Structure of Errors

This paper concerns the nature and extent of error introduced to regional input-output multipliers by errors associated with the estimation of regional purchase coefficients (RPCs). Using the Washington State input-output model and computer simulations, estimates of multiplier error are generated for two distinct sources of RPC error. The results indicate that multiplier error from both RPC sources may be significant and support the findings of previous studies which highlight the importance of error introduced to the household purchases column for multiplier accuracy. *J. Reg. Sci.*, May 1987, 27(2), pp. 245-53. College of St. Thomas; University of Pittsburgh.

Harris, Anthony H., et al.—Incoming Industry and Structural Change: Oil and the Aberdeen Economy

This paper quantifies the employment effects of the oil industry on the local economy of Aberdeen. It estimates not only the regional multiplier effects of the new industry, but also uses a form of shift-share analysis to estimate the supply-side effects on the labor and property markets. It is argued that in addition to creating jobs, the oil sector has also displaced existing jobs in non-oil industries and deterred new firms from entering the area. Quantification of the displacement and deterrence effects suggests that they are not large, but that they are significant in a number of individual industries. Coauthors are Michael G. Lloyd, Alastair J. McGuire, and David A. Newlands. *Scot. J. Polit. Econ.*, Feb. 1987, 34(1), pp. 69-90. University of Aberdeen.

Jones, Donald W. and Krummel, John R.—The Location Theory of the Plantation

This paper develops a method for studying noninfinitesimal operational units, with the Thünen location and land use model. With constant returns to scale and perfect divisibility of nonland inputs, all operational units would

only a point on the landscape. The present model uses increasing returns to scale to generate large operational units, called "plantations," and studies the comparative statics. The setting of the model is an agricultural operation in which some processing of raw crop must be conducted prior to shipment to market. The processing is assumed to have increasing returns to scale. *J. Reg. Sci.*, May 1987, 27(2), 157-82. Oak Ridge National Laboratory; Argonne National Laboratory.

Abler, Jack C.—Trade Center Evolution in the Great Plains
Empirical analysis has lagged behind the impressive additions to the theoretical literature

on trade-center systems during the past fifteen years. This study of the trade-center system in Saskatchewan is an attempt to begin to redress the imbalance and to test some of the recently formulated theoretical propositions. Communities are identified according to functional classifications for 1961 and 1981 with the aid of a cluster analysis program, and the validity of the groupings are verified using multiple-discriminant analysis. Changes in the size, spacing, and function of clusters and individual communities during the twenty-year interval are described, and an effort is made to provide explanations for the changes observed. *J. Reg. Sci.*, May 1987, 27(2), pp. 225-44. University of Saskatchewan.

Doctoral Dissertations in Economics

Eighty-fourth Annual List

The list below specifies doctoral degrees conferred by American universities and colleges during the year terminating June 1987.

General Economics; including Economic Theory, History of Thought, Methodology, Economic History and Economic Systems

- ANDREONI, JAMES R., Ph.D. University of Michigan 1986. Essays on Private Giving to Public Goods
- BANERJI, SANJAY, Ph.D. SUNY at Buffalo 1987. Incomplete Information, Adjustment Costs and the New Classical Microeconomics
- BECKER, KLAUS-GUNTER, Ph.D. University of Kansas 1987. Essays on the Sustainability of a Natural Monopoly
- BELCHER, LAWRENCE J., Ph.D. Indiana University 1987. Simple Dynamic Models with Uncertainty
- BERGER, GEORGE SWANK, Ph.D. University of California, Davis 1987. Labor as a Quasi-fixed Factor: A Revision
- BERGIN, JAMES, Ph.D. Princeton University 1986. Repeated Incomplete Information Games with Discounting
- BERNHARDT, MARK DANIEL, Ph.D. Carnegie-Mellon University 1986. Three Essays in Applied Dynamic Microeconomic Theory
- BERTAUX, NANCY, Ph.D. University of Michigan 1987. Women's Work, Men's Work: Occupational Segregation by Sex in Nineteenth Century Cincinnati, Ohio
- CASE, JAMES C., Ph.D. University of Wyoming 1986. Contributions to the Economics of Time Preference
- CHUN, TAECK SOO, Ph.D. SUNY at Albany 1987. The Rational Expectations Hypothesis in the Long Run: Empirical Tests Using Survey Data
- CHUN, YOUNGSUB, Ph.D. University of Rochester 1986. Essays on the Resolution of Conflicting Interests
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- GAVIN, MICHAEL, Ph.D. Massachusetts Institute of Technology 1987. Three Essays in Macroeconomics
- GERBER, JAMES B., Ph.D. University of California, Davis 1986. Southern White Schooling, 1880-1940
- GIANNIAS, DIMITRIOS APOSTOLOS, Ph.D. Carnegie-Mellon University 1987. Differentiated Products: Solutions to Equilibrium Models
- HANIC, MARCO, Ph.D. Massachusetts Institute of Technology 1987. Differential Gaming Models of Oligopoly
- HANSEN, GARY D., Ph.D. University of Minnesota 1986. Indivisible Labor and the Business Cycle
- HAYES, MICHAEL NEIL, Ph.D. University of California, Davis 1986. Mercantile Incentives: State-Sanctioned Market Power and Economic Development in the Atlantic Economy, 1553-1776
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**Quantitative Economic Methods and Data;
including Econometric Methods, Economic and
Social Accounting**

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Examples are given from both anthropology and economics. *J. Econ. Issues*, June 1987, 21(2), pp. 587-603. University of Tennessee.

Williams, William W.—Institutional Propensities to Publish in Academic Journals of Business Administration: 1979-1984

This research has attempted to identify those institutions whose faculties have demonstrated propensities to contribute to leading academic journals of business administration during the period 1979-1984. Three core journals in each of the fields of accounting, behavioral management, finance, management science, marketing, and general business were surveyed and the institutional affiliations of the authors were tabulated. In general, it was found that contributions to the journals in each field tended to be concentrated among a relatively small set of institutions. Comparisons were also made to a similar study covering 1972-1978 to trace longitudinal tendencies in publication activity. While the mix of institutional contributors to individual disciplines experienced some volatility, composite rankings, reflecting aggregate institutional contributions to all six areas, remained relatively stable across the two time periods. *Quart. Rev. Econ. Bus.*, Spring 1987, 27(1), pp. 77-94. Louisiana State University.

020 GENERAL ECONOMIC THEORY

Frey, Bruno S.—Economists Favour the Price System—Who Else Does?

Most people except professional academic economists resist or reject the use of the price system. The four main reasons are: lack of information; undesirable distributional consequences; unfairness and reluctance to trade; and adverse effects on preferences. The reasons brought forward against the price system are only partly convincing, particularly in comparison to other decision-making systems. The use of the price system may create more problems than traditional neoclassical economics admits. The difficulties and paradoxes connected with the use of the price system provide a challenge to existing economic theory. *Kyklos*, 1986, 39(4), pp. 537-63. Institut für empirische Wirtschaftsforschung, University of Zurich, Switzerland.

Silber, Jacques—Rationality, Self-Coordination: On Some Current Issues in Economics

This article reviews some of the important controversies in economics: three kinds of debates: one relating to individual behavior, the externalization, and the relevance of the bounded rationality; a second on the essence of coordination in markets; the centrality of equilibrium and the importance of strategic behavior; a third on principal-agent relations, within firms or between citizens and the state. *Econ. Notes*, 1986, (3), University of Southern California.

021 General Equilibrium and Disposal Theory

Forsythe, Robert and Suchanek
Decentralizing Constrained Pareto Allocations in Stock Ownership: An Impossibility Theorem

The authors demonstrate that if information about unowned firms is revealed in the market, the set of decision rules for firms that decentralize constrained Pareto optimal allocations for a robust class of economies result holds whether or not markets are complete. The authors show that the inefficiencies are a consequence of informational imperfection and can only be avoided if investors have essentially full information. The structure of the authors' impossibility theorem leads them to conclude that, in general, the economy can be better than when firms are valued. *Int. Econ. Rev.*, June 1987, 28(2), University of Iowa; University of

Repullo, Rafael—The Existence of an Equilibrium without Free Disposal with Transaction Costs and Incomplete Markets

This paper presents a general equilibrium model with transaction costs, a relaxation of the existence of a competitive equilibrium. T. C. Bergstrom's procedure to disprove the disposal assumption. Since economies with complete markets are shown to be

compared with the alternative of incorporating R and D into production units. Given the heavy pressure exerted on managers to fulfill short-term production plans, little attention is paid to R and D and in many cases R and D capabilities are used to meet production quotas (see below). Since 1973 several new organizational schemes ("production-technology" and "science-production" associations) have attempted to bring R and D and production under one managerial umbrella. The results of this compromise have been mixed, at best, and many of the previous problems still prevail (Berliner 1983c; Hanson 1981, pp. 56-57). The main problem, and probably the cause of the preference for separation, lies in the difficulty of focusing the rewards for innovation solely on its direct economic benefits. In reality separation's potential benefits to innovation do not materialize because of exogenous disruptive interferences such as problems of supply and of prices being fixed too low.

The reluctance of enterprise managers to introduce new methods and products is a major obstacle to technological change and one reason there is a preference for directing much innovation to new enterprises at the expense (as previously discussed) of high costs in terms of investment funds and a high proportion of construction in total investment. The resistance of managers to innovation stems largely from the bias imposed on them from above in favor of short-term production. Most activities connected with innovation involve some sacrifice of present performance, like changing sources of supply (a high-risk proposition), retraining, and a period of experimentation and quality adjustments. New materials or equipment needed may be in short supply, the limited quantity produced being earmarked for military or other top-priority claimants. Because the

introduction of a new method is usually part of a plan, there is always the danger that plan targets will be adjusted upward to more taxing levels. The strong seller's market and the lack of real competition reduce the pressures on managers to improve their products. In this respect the absence of the "kicking foot" of competition is, according to Berliner (1976, pp. 526-30), a more serious obstacle to innovation than that of the "invisible hand." In such an atmosphere, the rewards to managers for introducing innovations are rarely big enough. These rewards have recently been raised, but apparently still not sufficiently to offset the overwhelming dominance of the output target. Providing stronger incentives to innovation is hindered by defects in the price system, and by the danger of development of undesirable side effects—spurious innovations and false "new" products. Berliner (1976, Ch. 17), who analyzed the innovative activity in terms of a balance between risks and rewards, concluded that under the Soviet system both are lower in comparison with the situation in a market economy. Rewards, however, are much lower, thus causing poor outcomes. One may raise the question whether a socialist system can at all offer the kind of material incentives in both income and wealth needed to encourage innovations from below. Finally, resistance to innovation is based on complaints about the quality and effectiveness of proposed innovation by the R and D sector itself, not always without some justification.

One major consequence of the problems listed above is that both in new projects and in existing enterprises, lead times for introducing new innovations are usually very long. As a result, large investments remain pending for long periods, and technologies sometimes become obsolete even before their introduction (Hanson 1981, pp. 65-73).

advantage, opinions still differ as to (a) the extent to which Soviet trade really conforms to this principle—whether (given distorted internal prices) Soviet planners can guide their trade along these lines in the first place—and (b) the extent to which the actual outcome exploits the full potential of benefits from trade.

Rosefelde (1973, 1974, 1977, 1981) believes that the Soviet Union can overcome price calculation problems and can lead trade according to what he calls "fundamental comparative advantage" which goes most of the way toward full comparative advantage. Other students are more skeptical. In fact, the inability to calculate correct prices is presented as a major cause of the Soviet tendency toward autarky (Holzman 1974, pp. 139–41; Hewett 1974; Carl H. McMillan 1973, 1974; see also Stephen H. Gardener 1979; Holzman 1976, Ch. 3; Michael Marrese and Jan Vanous 1983; Charles Wolf et al. 1983). Whether or not calculation of correct prices is feasible, the virtual insulation of producers and users from the direct impact of world prices is a source of long-term economic inefficiency and, in essence, an autarkic element, the actual trade volume notwithstanding.

In his study of technology transfer to the Soviet Union, Hanson (1981, pp. 138–39) suggests that in a large country such as the Soviet Union, where imports of technology from the West cannot constitute more than a modest proportion of total investment in equipment, it is relatively simple to identify the spheres of greatest need. This argument may be extended to trade to indicate that although big mistakes may not be made, many small ones are highly probable. This suggests that while the Soviet Union does indeed benefit from trade, at least from trade with the nonsocialist world (Hewett 1983; Everett M. Jacobs 1978),

such benefits must be to some degree limited. The major forgone benefit, however, is the isolation of the domestic economy from the competitive pressure of world markets.

V. *The Socialist System and Its Growth Strategy*

The growth record and patterns described here were shaped by an economic-political system and a growth strategy usually called socialist. This section surveys, in the light of relevant Western writings, the central features of that system and strategy, and relates them to the growth record and patterns mentioned.

A. *The Objective Function and Catching Up*

An underlying driving force has been the desire to catch up rapidly with the West, even to "overtake and surpass" (Joseph S. Berliner 1966). Berliner quotes Stalin's famous call in 1931: "We are fifty or a hundred years behind advanced countries. We must make good the distance in ten years. Either we do it or they crush us" (Berliner, 1966, 161). Since then, similar pronouncements have frequently been made, in 1961 the goal of surpassing the West within the "current decade" (1961–1970) was officially incorporated into Communist party program by Khrushchev and remained there until the recent revision, when it was replaced by more general language (Communist Party of the Soviet Union 1985, p. 512; 1985, p. 9; Gregory Grossman 1962).

This powerful drive is apparently generated by a number of forces. First is doubtless a manifestation of the tension that builds up in a follower country between the distance it has to travel to reach economic modernization and